



FIG. I.

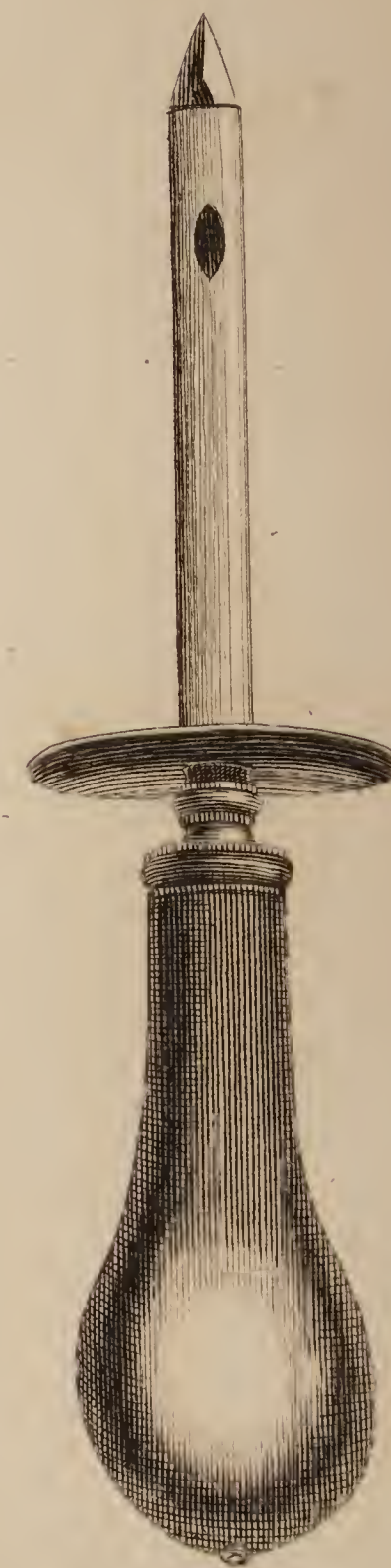


FIG. II.

O B S E R V A T I O N S
O N T H E
D I F F E R E N T M E T H O D S m a d e U s e o f f o r t h e
R A D I C A L C U R E
O F T H E
H Y D R O C E L E,
O R
W A T R Y R U P T U R E,
A n d o n o t h e r D I S E A S E S o f t h e T E S T I C L E;
T O W H I C H I S A D D E D
A C O M P A R A T I V E V I E W o f t h e D I F F E R E N T
M E T H O D S o f C U T T I N G f o r t h e
S T O N E;
W i t h s o m e R e m a r k s o n t h e M e d i c i n e s g e n e -
r a l l y e x h i b i t e d a s S o l v e n t s o f t h e S T O N E.

B Y *W I L L I A M D E A S E*,
S U R G E O N t o t h e U N I T E D H O S P I T A L S o f S t. N i c h o l a s,
a n d S t. C a t h e r i n e.

D U B L I N:
P r i n t e d b y J. W I L L I A M S, N o. 21, S k i n n e r - R o w.
M D C C L X X X I I.

C O N T E N T S.

S E C T I O N I.

	Page
O F the hydrocele in children, with the method of cure.	I

S E C T. II.

Of the hydrocele in men, and the different methods, proposed for it's radical cure, considered.	12
---	----

S E C T. III.

Of the radical cure of the hydrocele, by caustick.	25
--	----

S E C T. IV.

Cases in which the radical cure of the hydrocele, should not be undertaken.	31
---	----

S E C T. V.

Of the hydrocele of the tunica vaginalis of the spermatick chord, with the method of treating it.	33
---	----

C O N T E N T S.

S E C T. VI.

Of the different enlargements of the testicle, their distinctions and method of treatment. 36

S E C T. VII.

Of fungous excrescences of the tunica albuginea testis. 54

T O

HENRY MORRES, Esq.

S I R,

THE following observations treat of diseases that require an exertion of those abilities, which eminently characterise a good surgeon: this alone would have been a sufficient motive for my addressing them to you, who have justly acquired the highest professional reputation. But I must own I had a much stronger inducement; for I was anxious to embrace the first opportunity of giving a public testimony of the esteem, in which I, in common with every practitioner who wishes the advancement of surgery in Ireland, must necessarily hold you. To you, sir,
the

the profession must be ever indebted for the distinguished zeal with which you embraced the measures that were proposed to raise it from the state of obscurity, in which it was hitherto involved; and for the unremitted attention, however as yet ineffectual, you have since given to carry those measures into execution, by obtaining a patent for the incorporation of surgeons into a Royal college.

It is an unfortunate circumstance, and a humiliating reflection, that the best institutions, even those that have contributed most to the publick welfare, have been so slow in their progress, that the age, in which they commenced, has rarely
seen

seen their full establishment. Mankind, in general, look with frigid indifference, and even with contempt, on all new institutions : This is strongly evinced by the many oppositions the Royal Society of London met with, in the beginning, from some of the first literary characters of the age ; and the present state of physick in Ireland may serve to justify this reflection.

The number of students in physick and surgery, that are necessary to supply a succession of practitioners to Ireland, may be moderately computed at about three hundred : they are generally indebted either for the whole, or the finishing,
of

of their medical education to foreign universities ; and this at a very considerable expence. It naturally occurs to enquire why, at this enlightened period throughout Europe, we, in particular, should labour under so great a national disadvantage.

It is evident that, in attaining all the studies preparatory to that of physick, we possess more advantages than most other kingdoms : Our University is justly considered as holding a distinguished rank among the first in Europe : there is a professor of anatomy, chemistry, and botany on the University foundation ; and Sir Patrick Dun, a physician, in the beginning of this century, left his fortune,

tune, which is an increasing estate, and at present exceeds six hundred pounds a year, for the purpose of instituting lectures * on all the branches of physick, to be given regularly at proper stated times to all students of physick. So that in Dublin, if a young man can but maintain himself, he ought, at no expence, to

* By the will of Sir Patrick Dun, those lectures were to be given in Latin, which circumstance I have heard sometimes mentioned as an apology for not giving them at all; but surely this pretext is so foolishly absurd, that it is impossible it should ever have been seriously urged. Is not the benevolent intention of the testator sufficiently clear in the whole disposition of the will? Does there not exist a tribunal, which power may authorize, and common sense direct, to give operation to those intentions in the most effectual manner? Or shall an incidental phrase, that has nothing to do with the general purposes of the will, be considered as the only part of it, endued with the sacred character of the Median Laws, though the destruction of the whole is the necessary result?

to pass through a course of medical studies under the most eminent practitioners. But, unfortunately for this country, what an ingenious writer * has remarked of Universities, in general, has been hitherto but too applicable to our own, with respect to this branch. He says, ‘ The endowments of schools
‘ and colleges have necessarily
‘ diminished more or less the ne-
‘ cessity of application in the
‘ teachers. Their subsistence, so
‘ far as it arises from their sala-
‘ ries, is evidently derived from
‘ a fund altogether independent
‘ of their success and reputation
‘ in their particular professions.’
And again, ‘ In other universi-
‘ ties the teacher is prohibited
‘ from

* Smith, Wealth of Nations.

‘ from receiving any honorary
‘ or fee from his pupils ; and his
‘ salary constitutes the whole of
‘ the revenue which he derives
‘ from his office. His interest is,
‘ in this case, set as directly in
‘ opposition to his duty as it is
‘ possible to set it. It is the in-
‘ terest of every man to live as
‘ much at his ease as he can ;
‘ and if his emoluments are to
‘ be precisely the same whe-
‘ ther he does or does not per-
‘ form some very laborious du-
‘ ty, it is certainly his interest,
‘ at least as interest is vulgarly
‘ understood, either to neglect
‘ it altogether, or, if he is sub-
‘ ject to some authority which
‘ will not suffer him to do this,
‘ to perform it in so careless
‘ and slovenly a manner as that
‘ authority

‘ authority will permit. If he
‘ is naturally active and a lov-
‘ er of labour, it is his interest
‘ to employ that activity in
‘ any way, from which he can
‘ derive some advantage, ra-
‘ ther than in the performance
‘ of his duty, from which he
‘ can derive none.’

The college of Edinburgh, which has drawn such an afflux of students from other parts of the world, derives it's celebrity from comparatively apparent disadvantages. The professors there have but a small stipend ; but this excites their industry, which is amply rewarded by the number of pupils that attends them ; and to which the city of Edinburgh is

is much indebted, for it is calculated that they expend there above seventy thousand pounds a year.

In Dublin, the want of regular lectures on the different branches of surgery has the worst influence on the profession, which must ultimately prove extremely injurious to the publick.

It is evident that the present mode of surgical education is very defective ; and the consequence is, that, when a young man is out of his apprenticeship, he is generally obliged to go abroad, at a certain expence, to perfect himself. This very often does
not

not turn out much to his advantage, and that for want of acquiring an early habit of application.

To remove all those impediments, and to form as respectable a system of medical education as any in Europe, requires but that a becoming spirit should pervade the two professions of physick and surgery, to co-operate in their separate departments, and regularly discharge their respective duties. Should the surgeons of Dublin obtain the king's patent to incorporate them into a Royal College, I make no doubt but they would strenuously endeavour laudably to emulate their brethren

thren on the Continent. Then our young men will find in their own country, and, what is very important, under the inspection of their friends, and at much less expence, all the advantages that well regulated lectures, and the attendance on our numerous hospitals must afford; and the nation will be saved a considerable expence.

To you, Sir, I willingly submit these few thoughts on the present state of surgery here, confident of approbation, as however imperfect, they are not altogether unworthy the patronage of a gentleman, who, in promoting the advancement of the profession, approves himself

himself a friend to the interest
of mankind.

I am, Sir,

With perfect esteem,

And sincere attachment,

Your very humble servant,

WILLIAM DEASE.

Usher's-Quay,
20th March, 1782.

OBSERVATIONS
ON THE
DIFFERENT METHODS made Use of for the
RADICAL CURE
OF THE
HYDROCELE,
OR
WATRY RUPTURE,
And on other DISEASES of the TESTICLE.

SECTION I.

*Of the Hydrocele in Children, with the
Method of Cure.*

THERE are many diseases, which, although they do not immediately endanger life, yet render it extremely uncomfortable, if not perfectly unhappy; and such, among others, is that which is the object of our present enquiry. Those infirmities, which a mistaken delicacy obliges the patient

to conceal, are not only peculiarly distressing to the mind, but often prove fatal in their consequences. How many local complaints are rendered incurable, or become suddenly mortal, by the patients imprudently concealing them? There are few who do not reluctantly own their having a rupture: the consequence generally is, that the intestine not being early returned, and supported by a well adapted truss, the patient is continually in imminent danger of miserably losing his life; or from the length of time, volume of the intestine down, and the adhesion it may contract with the surrounding parts, it becomes incapable of being reduced; the unhappy sufferer drags out a painful existence, and at last falls a victim to his false delicacy.

In like manner, in general, do those act who have the misfortune to labour under an hydrocele: In the beginning, if they apply for relief, the delicacy of the part intimidates them from submitting to any method that may be proposed for the radical removal of the disease: They are content with the palliative one of tapping, by which they believe neither their life or testicle are brought

brought into danger. The consequence is, that, by the long continuance of the disorder, the tunica vaginalis becomes prodigiously thickened, and the testicle, by the constant maceration in the water, is either morbidly enlarged, or its texture totally spoiled. Some unlucky accident, or the patient's being fatigued with the complaint, obliges him, at last, to submit to the radical cure; when he must often, under those circumstances, run the double risk of life and testicle.

This is not the case with those, who have fortitude and prudence enough to submit early to the radical cure: For, if the disease has not proceeded from a scirrhus testicle, and cancerous virus, the operation of the caustick totally destroys the power of the inhaling vessels of the tunica vaginalis, and radically rids the patient of a most disagreeable complaint, without his undergoing many painful or dangerous consequences.

As this subject has engaged the attention of the first surgical characters, I shall here, for the most part, only offer the result of my own experience.

It is evident, that a fine lymph is continually inhaled into the cavity of the tunica vaginalis testis, and occasionally absorbed, in the same manner as in all other membranous cavities. Whether an hydrocele proceeds from a morbid state of the inhaling or absorbing vessels, or from a rupture of the lymphatics, is of no great consequence to the practitioner to be informed of: he must consider it, in general, as a local affection, depending on some of the causes before mentioned; and his attention must be to procure such a suppuration, in the cavity of the tunica vaginalis, as will effectually destroy both the inhaling and absorbent system: an event which, I believe, no practitioner will deny to take place where a radical cure has been effected.

WE have now to enquire, what period of the disease is the most proper, to undertake the radical cure of an hydrocele, and in which we are most likely to succeed.

SECONDLY, what are the more eligible means to procure the suppuration that will be necessary to effect a cure.

THIRDLY

THIRDLY, what should be the objections to our undertaking any method of radically curing this disease.

And first, in order to consider, as to the most favourable period of this disorder to attempt a radical cure, we must distinguish hydroceles, into those that arise from accidental causes; and into those that are the effect of a previous morbid state of the parts, arising from some particular disposition in the habit of body: In short, into such hydroceles as may be termed simply local, where the disease is limited to a collection of water in the tunica vaginalis testis, in a patient of an otherwise healthy habit of body; and into such as proceed from, or are attended with, painful enlargements of the testicle, in subjects who labour under visceral obstructions, or have any acrimony or cancerous tendency in their system.

ALTHOUGH no age is exempt from this disorder, yet we more commonly meet with it in children, or in those who are about or after forty; except where an accident, or some

venereal complaint, has been the cause of the disease.

MANY children are born with an hydrocele; and it is seldom that we have occasion to have recourse to any other means for their radical cure, but a simple puncture with a lancet, corroborating fomentations, and gentle purgatives. Although the disease should appear again, we must repeat the operation; and it seldom happens that the complaint resists one, two, or three punctures, made at due intervals *.

BUT, in children from two to seven, or upwards, although, from the irritability annexed to this period of life, a simple puncture is very often productive of such an inflammation, as in the event effects a radical cure; and that we have more advantageous recourse to topical applications, &c. yet the disease sometimes resists all those means; and we are obliged to put in practice some more effectual, in order to accomplish our design.

IT is very rare that, in those tender years, the testicle is any way affected: The accumulation

* Vide Note I.

lation of water, in the tunica vaginalis, seems to arise from a local defect in the constrictive faculty of the inhalents; otherwise, why should we so frequently experience the good effect of astringent fomentations in curing this disorder.

THAT an inflammation may cause an adhesion of the tunica vaginalis with the testicle, is what, although I have not satisfactorily seen, yet I will not deny: But that a gentle general suppuration of this membrane is capable of answering every intention, of radically curing this disease, by destroying or obliterating the system of inhalents, and so preventing a return of the disease, is what all the experience I have had confirms. For, during the progress of the cure, I have attentively watched the coming away of any sloughs; but could not discern any thing, which bore the least resemblance to the tunica vaginalis testis: And after the cure was effected, except in the point where the caustick was applied, there appeared no adhesion of this membrane round the testicle.

As, at this period of life, there is seldom any constitutional objection to undertaking the
the

the radical cure; and as it is a disease that should not, by any means, be suffered to grow with the child; what will be the best method, of radically curing it, presents itself next to our consideration.

I HAVE frequently remarked that gross heavy children, subject to breakings out and running of the head, and behind the ears, when they are imprudently dried up, often fall into an hydrocephalus internus; of which some recent cases and dissections of this kind*, in which I was engaged, gave me the most convincing proof; nor do I believe there is a more powerful means of preventing an increase of the disease, than directing our chief indication to procure an abundant discharge from the head.

IF we should judge from analogy, I would, in every child of such an habit of body affected with an hydrocele, previous to putting in practice any of the methods hereafter to be mentioned, try first the effect of simple puncture with a lancet; procuring a large discharge from the head; gentle purging; alteratives, and corroborating local applications. If these should

* Vide Note II.

should not succeed, we must have recourse either to the incision, seton, or caustick.

• WHATEVER method we adopt, we must previously consider that the part engaged is a very important gland, enveloped in a membranous sack, the tunica vaginalis testis. Experience shews that the worst consequences succeed the suddenly exposing, by incision, membranous cavities, in which parts so exquisitely sensible are lodged, particularly if they are not morbidly affected.

Now in children, who are much more sensible of pain than adults, if we should, by incision, lay open the cavity of the tunica vaginalis testis, and suddenly expose the testicle both to the air and rude contact of dressings, we must expect, in general, many severe and painful consequences, and the happy event will be very doubtful : For although I never saw a child die in consequence of putting this method in practice ; yet I have ever seen it attended with high inflammatory symptoms ; and in one case, the particulars of which I do not recollect, after a year the disease returned.

THE seton is liable to much the same objections: To leave an extraneous body in continual contact with a part so exquisitely sensible, must be productive of much more pain and inflammation, than is necessary to perform a cure. This I will consider more at large in another place.

THE caustick is not liable to those objections, as far as I have experienced; and I will briefly lay down the method I have adopted, since I read Mr. Else's ingenious Essay on the Hydrocele.

IN boys, under the age of fifteen, the integuments of the scrotum are generally thin; nor does the tunica vaginalis testis ever acquire that callous thickness, as it does in those advanced in years, from a continuance of the disorder. I therefore, in general, dispense with letting the caustick lie on the part; and only take a piece of pipe lapis infernalis, and having wet the end of it, rub the anterior and inferior part of the tumour to about half the breadth of a six-pence, and continue rubbing until the part is thrown into an eschar: This is attended with very little pain: I then apply a pledgit of soft spermaceti ointment,

ment, and plaster over; and order the scrotum to be wrapped in the flax seed pultice, to be occasionally repeated, and supported with a bag truss.

It must be confessed that, in this method, the operation of the caustick is slow, and may seem rather tedious: But then the patient is amply recompensed by the little pain he suffers, and the absence of all those high local and general inflammatory symptoms, that attend the other methods.

In the course of the cure, the testicle will become more or less enlarged; and we should be careful to have it fomented, three or four times a day, and the emollient pultice constantly applied, supported by the bag truss; and the patient purged every third or fourth day.

AFTER the tunica vaginalis appears, the spot intended to be perforated, if thin, may be punctured with a lancet; but if we slightly rub it with the caustick, it generally sloughs off: The water drips gradually away, in which a few sloughs commonly appear from time to time; Those seem to be de-
tached

tached only from the parts immediately adjacent, and are not the entire tunica vaginalis flung off. A suppuration soon takes place from the inside of the sack: All enlargement gradually subsides; the discharge daily lessens; and a cicatrix is soon after formed, which adheres to the testis, at the spot where we applied the caustick; and a radical cure is the consequence*.

IN this method, there is no fear of the causticks spreading to a greater extent, than we design it should; but where the integuments are thick, we may apply the caustick, as we do in adults.

S E C T. II.

Of the Hydrocele in Men, and the different Methods proposed for its radical Cure considered.

AN HYDROCELE, in men, is a very serious complaint, and requires, in the Surgeon, the most attentive consideration of the general state of the patient's constitution;

* Vide Note III.

on, and the cause that gave rise to the disorder, previous to his adopting any method of treatment; as otherwise it frequently happens that the patient, in any method, is made to run the most imminent danger of losing his testicle, and perhaps his life.

IN young healthy men, it is seldom an hydrocele appears, but from the patient's having met with some accident, or in consequence of a venereal swelled testicle.

I HAVE seen some cases, where the patient very justly imputed the disease to his having had the testicle hurt by a jolt on the pommel of the saddle, in riding: Others to some bruise or hurt. After the pain, and any inflammation, which immediately attended the accident, had subsided, a fullness in that side still remained more or less: the patient, very often, not bestowing any attention in the beginning of the disease: And it often happens, that those accidents are only productive of a temporary pain, which soon passes; and the fullness of the side of the scrotum affected is not noticed for some time.

WHETHER those accidents, and the irritation they are productive of, occasion a greater secretion of lymph into the cavity of the tunica vaginalis testis, at the same time that the functions of the absorbents are suspended by the injury, is a question hard to determine; and really of no material consequence, as to the cure of the disease: certain it is, that from such accidents arise hydroceles.

WHEN the patient is of a vigorous habit of body, possessing great firmness of solids, we find the distension of the tunica vaginalis both quick and painful; whereas in those who are of a relaxed weak fibre, or gross and phlegmatic, the distension, for the most part, is unattended with any pain, and the progress of the disease rendered imperceptible. In either of those cases, the disease being merely local, the testicle not being, in general, materially engaged, there can lie no objection against our undertaking the radical cure.

A SWELLING of the testicle, in consequence of venereal affections, often proves painful, tedious and obstinate: Those enlargements are seldom or never so completely dissolved, but what the epididymis remains larger than usual.

al. It is very reasonable to suppose, that the texture and functions of the testicle, and tunica vaginalis, may, from repeated inflammations, be considerably altered, and injured, so as to occasion an hydrocele; and in fact, such cases are not unfrequent. *

IN an hydrocele, the consequence of a venereal enlargement of the testicle, it is extremely necessary, previous to our putting in practice any method of treatment, that we should get every possible information, as to the existence of any of the venereal virus: This we will be enabled to judge of, by considering the virulence of the disease, and the treatment the patient underwent to get rid of it.

IF any probable doubts should arise, and that it is reasonable to imagine the patient to be still infected, before we have recourse to either the palliative, or radical cure, I would advise a course of the saponaceous mercurial pill;

* The day in which I write this, I tapped a man of thirty for an hydrocele, which he said proceeded from a venereal swelled testicle he had about nine months ago. After tapping, I could scarcely perceive the testicle was enlarged; but he had a slight running, which he said he never got clear of from the time he contracted the clap.

pill ; or frictions of a drachm of mercurial ointment, applied to the legs, and so regulated as not to take to the mouth much ; fomentations of the hemlock leaves, and a pultice of the same, applied to the part.

WHEN, by those means, any remaining virus is subdued, and the enlargement lessens, if a reabsorption of the water in the tunica vaginalis does not take place, the puncture, with a course of tonicks after, will bid fair for radically curing this disorder.

IN those cases, although no strong suspicion, of the existence of the venereal virus in the system, can be entertained ; yet, at all events, as the patient cannot be materially injured by the treatment, I think we may make a prudent trial of mercurials.

WE will now enter into a more full discussion of the proper means to be put in practice, for the radical cure of an hydrocele affecting men in the full vigour of life, supposing there lies none of the objections I have already mentioned : And therefore, we must re-enter on our remarks on the methods by incision, seton, and caustick.

BUT it will be necessary, first, to consider the consequence of performing any operation on men in full vigorous health, or that are very little removed from such a state, for local complaints.

ALL operations, where tense membranous parts are divided, cavities suddenly laid open, and some important viscus exposed to the air, must be ever followed by acute inflammatory symptoms, and many nervous affections; the intenseness of which will, in general, appear in a superior degree in those, who are the least removed from perfect health, and whose solids possess their natural irritability, neither blunted by pain or familiarity with preceding sickness. This disposition is certainly very unfavourable for performing an operation, where we suddenly expose one of the most sensible glands of the body to the air, and constant contact of dressings.

IN every case I have seen, or where I performed myself the operation for an hydrocele, either by simple incision, or by taking away as much as we can of the thickened tunica vaginalis testis, the consequences, in general, were as follows :

IF the simple incision was adopted, the operation is done both easily and expeditiously: There is seldom any considerable hemorrhage, or none but what may, in general, be restrained by lint or agarick, without having recourse to the ligature.

FROM the instant the operation takes place, the patient is under continual pain and inquietude; his pulse generally low, quick and hard; he gets but little sleep, and that not refreshing, notwithstanding the administration of opiates; the pain shoots up the spermatick chord, and affects the belly and loins; the more acute general inflammatory symptoms are often preceded by a nausea, or vomiting, and smart rigor, succeeded by heat and thirst; the testicle and spermatick chord become painfully enlarged, and drawn up towards the abdominal ring: Those symptoms continue with more or less violence the first days. It is seldom that any considerable remission takes place, before a suppuration is formed.

SHOULD we inspect the wound the third day, the lint generally sticks fast, and all appears tumidly crude. If the hydrocele was of a long standing, and had been, previous

previous to the undertaking of the radical cure, repeatedly tapped, the tunica vaginalis is generally more or less thickened, and a suppuration effected with great difficulty.

WHEN a suppuration at length takes place, the general inflammatory symptoms, pain, &c. subside more or less. On the removal of all the lint, the testicle, and inside of the tunica vaginalis, remain exposed throughout their surface, and the dressings are in constant contact with the first. The tunica albuginea must suppurate more or less: And an abscess in the body of the testicle sometimes occurs, which may totally spoil its texture, and destroy it's functions.

SHOULD the testicle be morbidly enlarged, we may judge what dangerous effects may be the consequence of exposing it to be inflamed, and perhaps to suppurate. In this case, we will be obliged to have recourse to castration: An operation imminently dangerous to the patient's life, and at best, rendering it ever after rather uncomfortable.

IF an oval piece of the teguments is removed, with as much of the tunica vaginalis as the Surgeon can conveniently come at, the operation is painful and tedious beyond expression, and the subsequent symptoms run, in general, much higher *: And after all the patient must suffer in either method, and the risk he must run, the radical cure will remain doubtful; and there are instances where the disease has returned †.

THAT many of those painful and dangerous consequences are the effect of exposing, by the operation, to the air and contact of dressings, in a large extent of surface, parts so exquisitely sensible, will appear from experience: For it often happens that, on a puncture being made simply to evacuate the water of an hydrocele, in one, two, or three days after, the sack

* Vide note IV.

† Mr Douglas has adopted this method on a very erroneous principle; for he considers the cyst of an encysted tumour, and the tunica vaginalis, in the same light; and from thence deduces the necessity of extirpating it: But when we consider that one is an adventitious morbid part, the other the natural envelope of the testicle, I presume that this inference will be rejected: a locked jaw being sometimes the consequence of this operation, of which I have known a recent instance.

sack appears as much, or more distended than before the puncture, more or less painful and inflamed, particularly in young people: A more obscure fluctuation is felt, than when only water fills the sack; as it is generally an extravasation of blood, from the division of some artery in the operation.

WHEN, in this case, we lay open the sack by incision, and discharge the extravasated blood, the tension, &c. subsides; and the subsequent symptoms never, as far as I have seen, run near so high, as in those cases we just mentioned; although the operation is the very same. We must therefore, attribute the difference, in the symptoms being infinitely more mild, to the cavity of the sack, and the testicle, not being immediately exposed to the air, or rude contact of dressings: For, on our dividing the sack, we find it's cavity filled with blood, some of it coagulated into clots; and the testicle, except where we are too officious to remove them, is not to be seen.

THINGS remain much in this way, until after the suppuratory fever is over, when the inflammatory erithism is abated; and

neither the air or dressings are productive of the painful effects they otherwise would be *. Besides, there are some operations in surgery, which it is safer for the patient to have done by degrees; and this, I am confident, from repeated experience, is one of them.

THE radical cure of the hydrocele by fecton is an old operation, lately introduced into practice by a gentleman of great estimation in his profession †. He has produced many instances of it's good effects: But in all the cases that I can recollect, and in those he himself relates, the subsequent symptoms run much higher, and the patient's life must be said, comparatively speaking, to be in more danger, than where the caustick has been used. Besides, from collections of matter formed and retained in the sack, we are generally under a necessity of having recourse to incision; or, in other words, putting in practice the first method, by laying open the sack.

ADD to this that the operation is as painful, if not more than that by incision;

* Vide Note V.

† Vide Mr. Pott's Treatise on the Hydrocele.

on ; as this is done in an instant ; while Mr. Pott employs three instruments to introduce the seton. The continual contact of such an extraneous substance, as a skein of cotton or silk, with so delicate a part as the testicle, is a very unfavourable circumstance ; and if the testicle should be morbidly enlarged, the worst consequences may be justly apprehended. Nor will the cure, after all, be certain, as there are instances of a relapse ; particularly where the tunica vaginalis has been morbidly thickened, which is the more general case : For here, a coalescence between the tunica vaginalis and albuginea, caused by the inflammation excited, must not be expected ; as it is a circumstance very rare, except in very young subjects, that a radical cure of an hydrocele has been effected simply by an inflammation, without any suppuration having been formed in the sack.

To suppose that, in ancient hydroceles, where the sack of the tunica vaginalis will often contain from a pint to near a quart of water, and is some lines thickened, it will contract, and uniformly adhere, by the first intention, as we may say, round a body not much bigger than a walnut, although Mr. Pott

Pott asserts it happens, in his method of cure, is what, I believe, he will never demonstratively ascertain.

I WILL pass over any detail of the radical cure of the hydrocele, by means of injections into the sack, after the water is drawn off; or by introducing a tent, &c. * The symptoms in consequence of those operations are, in general, equally acute and dangerous, as those attending the method by incision, or seton.

It only remains that we relate from experience, how far the method of cure by caustick has been found more certain, infinitely less painful; and the patient's life never, as far as I have seen, in any danger.

* For any further information, vide Sharp, Warner, and Monro, who have respectively treated on this subject.

SECT.

S E C T. III.

*Of the radical Cure of the Hydrocele by
Caustick.*

UNTIL within these few years, there were not many surgeons, who recommended, any way warmly, the radical cure to their patients: And, from the representations of the consequences, laid down by the best authors *, they had just reason to be intimidated. Besides, there were few that would submit to have their scrotum slit up, and the testicle exposed, or a string run through it, for the cure of a disease, the continuance of which did not immediately endanger life. So that, except some accident happened in consequence of tapping, and an extravasation of blood was formed in the sack, which made an incision indispensably necessary, few submitted to it otherwise.

Mr. Pott's judicious treatise on this subject, in some measure, gave surgeons more confidence

* Vide Sharp, Cheselden, &c.

confidence in proposing the radical cure: But, by experience, it was found to be attended with so many painful and dangerous consequences, that it was very far from being generally adopted.

To Mr. Else we are indebted for a safe easy method of cure, comparatively speaking, of this very troublesome and, sometimes, dangerous complaint. On reading his essay on the radical cure of an hydrocele, by the application of a small caustick, I resolved to put it in practice, the first opportunity that presented. I found no great difficulty to persuade such as laboured under this disease, and that I thought were proper subjects, to let me apply a small caustick.

BEFORE we apply the caustick, we should, as far as possible, ascertain the actual state of the parts engaged, and general habit of body of the patient. As the disease begins, and sometimes increases, by almost imperceptible degrees, very often the patient can give but little information, in regard to the state of the testicle. But if he is otherwise in good health, looks well, and has no pain in his back or testicle, or up the spermatick chord; although we cannot satisfactorily,

rily, by feeling towards the posterior and inferior part of the scrotum, judge of the state of the testicle, on account of the distension of the tunica vaginalis; yet, we have good reason to look on the disease as a local affection, and may apply the caustick.

But should the patient be advanced in years, have a leaden fallow complexion, or labour under any visceral obstructions; if the hydrocele was preceded by an enlargement of the testicle, painful at times; and that he complains of pains in his back; it will be but prudent to content ourselves with the palliative treatment, at first, and lay aside the radical; at least until those constitutional complaints are removed, if the patient should be so fortunate.

The same attention we should pay to those, who labour under any scorbutick or scrophulous complaint: And in short, every patient should undergo a preparatory treatment suited to his particular temperament; and so directed as to prevent the future effects of a necessary inflammation and supuration, which must take place in parts so delicate, from rising too high; or from being productive of so many painful and dangerous

dangerous consequences, as the patient would be otherwise liable to.

THE local attentions we should have are, that, if the hydrocele has been of a long standing, is large, and that the water has been frequently drawn off, we may be sure that the tunica vaginalis is considerably thickened; and it may be prudent to defer the operation, and for the present, draw off the water by tapping *; and take the opportunity of applying the caustick, when the sack is not so much distended. The same method we should follow, supposing the hydrocele large, and that the patient never suffered a puncture.

As to the manner of applying the caustick, Mr. Else's directions are fully sufficient: † But I have always used the lapis infernalis, beat up with some soap, and a proper quantity

* The flat trochar, represented in plate I, I presume will be found infinitely preferable to any other instrument for performing this operation.

† In all cases where the integuments are not much thickened, particularly in young subjects, I find that rubbing the lapis infernalis on the part will, in general, be sufficient, and is much preferable to letting it lie on.

tity of opium. This caustick, when rightly managed, never spreads farther than is intended: a very desirable circumstance. Having applied it, I generally give twenty drops of tincture thebaic in an ounce of cinnamon water immediately after, which renders the action of the caustick a great deal less painful.

I NEVER found that the caustick, though it should lie on for twenty four hours, penetrated farther than the tunica vaginalis, the first application.

THE eschar should be dressed with a pledgit, spread with soft ointment; and the whole scrotum wrapped in the flaxseed pul-tice, and properly suspended by a well made bag truss. The dressings, pultices, and emollient fomentations should be continued. The eschar may be removed in three or four days, when a suppuration is formed round the edges, and it becomes loose.

IF we find that, from the thickness of the teguments, the caustick has not penetrated, we must repeat it, with the same precautions; and when the tunica vaginalis appears, if thin, we may puncture it, or by touching it

it with the lapis infernalis, it will slough away: A suppuration, generally abundant, if the hydrocele was large, takes place, and some sloughs are flung off from time to time. The fomentations, pultice, &c. should be continued; the patient's bowels be kept free by any gentle laxative; and he should have a decoction of the bark to take through the day. All enlargement gradually subsides, and the suppuration lessens.

THE patient need not be constantly confined to bed, during the treatment; but may be permitted to dress himself, and get up for some hours through the day, when the swelling has for the most part subsided, and the discharge is much lessened, which often happens at the end of a fortnight. After this, the discharge becomes trifling; the hole looks florid; the scrotum contracts to near its original size; a cicatrix is soon after formed, which adheres to the testicle, and remains indented. The whole process may take up from four to six weeks, and the patient is recompensed by the radical cure of a troublesome complaint.

HAVING shewn the method, that I have experienced most effectual, for the radical removal

removal of an hydrocele it only remains that we just mention, in what cases we ought not to propose it to the patient, but advise him to be content with having the water occasionally evacuated by tapping.

S E C T. IV.

Cases, in which the radical Cure of the Hydrocele should not be undertaken.

IN all cases, where the hydrocele is the consequence of a scirrhus enlargement of the testicle; that it is painful at times; the spermatick chord too full, and knotty; that the patient has a sickly yellow cast, and is troubled, on the change of weather, with flying rheumatick pains: In all those cases, the caustick should never be proposed, nor even the puncture, except where the sack is vastly distended, unless we inform the patient that he will, in very unfavourable circumstances, be obliged in all probability to submit to castration.

MEN in an advanced period of life, sickly, and troubled with asthmatick affections, or labouring under visceral obstructions *, &c. who have an hydrocele, should, in general, be contented with having the water occasionally evacuated by tapping: And as, in many of those cases, the sack takes a considerable time to fill, the disorder is rendered more easy to be borne; nor in such does it curtail the patient's life.

IN all cases, where a scirrhus or cancerous disposition of the testicle is presumed to exist, the caustick must be laid aside; and if the patient is resolved to get rid of the disease, and that we think it prudent, we must, in those cases, adopt the method by incision: For, if our suspicions are real, there will be a necessity for immediately removing the testicle. And in short, the treatment of an hydrocele, under different circumstances, requires in the surgeon a great deal of discernment and prudence.

* Vide Note VI.

S E C T. V.

Of the Hydrocele of the Tunica vaginalis of the spermatic Chord, with the Method of treating it.

IT does, not unfrequently, happen that water is collected along the tragit of the cellular membrane, that envelops the spermatick chord. This is totally distinct from the hydrocele of the tunica vaginalis testis, and is not very difficult to distinguish, except from an hernia. However, the fluctuation, and the impossibility of reducing the tumour into the belly, pretty well characterize it. Should there be any doubt, if we delay, the fluctuation will, in general, be rendered unequivocal.

FOR the cure of this complaint, we must give the preference to incision: For, in this case, no tense membranous cavity is laid open, but what is formed of the loose cellular membrane, and the thin muscular fibres that form the cremaster; nor do we expose any sensible part to the air, or contact of dressings.

I HAVE never experienced the fatal symptoms, that Mr. Pott* relates in two cases: He seems more apprehensive of making an incision in those cases, than in that of the tunica vaginalis testis. No doubt that, in hydropick subjects, incisions of far less extent will mortify, or become dry, and the patient sink under the general symptoms of his disease, and the wound never suppurate: But those are cases which preclude all such operations. But, where the patient had no constitutional affections, the operation, as far as I have experienced, succeeded happily, without being attended with any dangerous symptoms: And in one case, although complicated with some singular symptoms, and a train of hydatides protruded from the abdomen, and the patient had worms, yet he recovered very well†. In every case of this kind, the incision should be made with the same precaution, as in the operation for the rupture.

THE parts being shaved, if the tumour is large, the integuments should be first divided by a longitudinal incision, for about
three

* Vide his Treatise on the Hydrocele.

† Vide Note VII.

three inches, or so: In short, the incision should be in proportion to the extent of the tumour. After the integuments are divided, the sack will appear, and the fluctuation be rendered more sensible. We may make, at the inferior part, in the same cautious manner as in opening an hernial sack, a small perforation. When the evacuation of the water gives us a certainty of the disease, we must introduce the probe-pointed bistory, and lay open the sack to the full extent of the incision of the integuments. Soft dry lint laid in the wound, a plaster and proper compresses over, with a flannel tailed bandage, complete the dressings.

A DOUBLE flannel, wrung out of oil and camphorated brandy, should be applied to the patient's belly, and occasionally renewed; an opiate given at night; his bowels always kept free; and the antiphlogistick regimen enjoined.

THE treatment after requires no particular attention, as the wound generally suppurates kindly, and a cicatrix soon after is formed. If pain, tension, or any unusual inflammatory symptoms, should appear in the course of the treatment, they must be

combated by the general antiphlogifticks : And after the suppuration is established, the decoction of the bark should be taken by the patient through the day.

S E C T. VI.

Of the different Enlargements of the Testicle, their Distinctions and Method of Treatment.

THE spirit of enquiry, and freedom of exposing the errors of our predecessors, that so eminently characterize the present age, would, in surgery, be of the utmost utility to mankind, had some of our most respectable modern authors more authentically ascertained, by dissections, the erroneous opinions they meant to explode.

THE description of a sarcocoele given by all surgeons, until within these few years, is deemed to be very erroneous, by the unanimous consent of the surgeons of this day : They alledge that our predecessors in science mistook a scirrhus testicle, for a fungous or fleshy excrescence, growing on the surface of the testicle : A case which, they say,
never

never happens : Whereas that of the scirrhous testicle often occurs.

So capital a mistake must have been of the utmost bad consequence in practice : For, those who held, that a fleshy or fungous excrescence could arise on the surface of the testicle, without impairing or spoiling the integrity of its vascular texture, strove to consume the excrescence by suppuration, and preserve the testicle : And many instances of the success of this practice are recorded in their several works.

ALL the modern authors, that I have read, totally explode this opinion ; and insist that no such fungous excrescences ever arise on the surface of the testicle, but in consequence of the cancerous state of this gland ; that all mistaken enlargements proceed, either from a morbid state of the vascular body of the testicle, or the epididymis ; and are to be looked on as such : Therefore, all applications to consume excrescences, which cannot exist, and the vascular structure of the testicle remain unchanged, must be highly detrimental ; as we must, by this method, precipitate, or convert, occult cancers into open ones ; and often, by this fruitless and

painful delay, we give both time and occasion to the spermatic chord becoming so enlarged, as to preclude the patient from all chance of being relieved, by the operation of castration, the only resource in those cases; and resign him a victim to one of the most painful and loathsome diseases.

As it is almost impossible, in a considerable enlargement of the testicle, precisely to determine its true nature, we have every reason to presume, that many real scirrhuses, of the body of the testicle, have been mistaken for fleshy excrescences grown on it; and much danger has from thence resulted to the patient. At the same time, dissection has evidently proved, that such excrescences do exist, and the vascular texture of the testicle remain unchanged: And that many such cases do occur, which have been deemed a real schirrus of the body of the testicle, I have no doubt of; and where castration has been performed: an operation that, in some of those cases, might be dispensed with.

I WILL briefly consider all enlargements of the testicle, under three different points of view.

FIRST,

FIRST, a scirrhus enlargement of the epididymis.

SECONDLY, a scirrhus enlargement of the body, or vascular texture, of the testicle.

THIRDLY, fungous excrescences of the tunica albuginea testis.

A VENEREAL swelled testicle is but seldom so completely disaffected, but what the epididymis will remain more or less enlarged and knotty. This complaint, if not meddled too much with, is seldom or ever productive of any alarming consequence. But, in hypochondriack patients, it becomes a matter of more serious consideration: They, for the most part, are constantly feeling the part; anxiously thinking of any possible bad event; continually making some application or another, generally of the mercurial kind; by which means it often occurs, that inconsiderable complaints of this sort, which would have never proved troublesome, or of any moment, become enlarged, painful, and sometimes, although but very seldom, cancerous.

IN all the cases of this kind I have seen, there never was, in one of them, any necessity of performing castration. Quieting the patient's mind, by assuring him that the complaint is of no consequence, if let alone; cautioning him against handling the part; and suspending the testicles in a bag truss; except the enlargement is considerable, will fulfil every intention; as, by time, the complaint either decreases much, or becomes so familiar as to be forgot by the patient.

HOWEVER, where the epididymis has been considerably enlarged, I have frequently, with great advantage, ordered a course of the mercurial pill, with castile soap and extract of hemlock *, and a decoction of sarsaparilla: The testicle to be fomented with a strong decoction of hemlock, three or four times a day, and covered with the soap and hemlock plaster. By those means, I have frequently reduced very considerable and alarming indurated enlargements of the epididymis.

WHEN the glandular part of the testicle becomes

* A drachm of each, formed into thirty-six pills, two to be taken night and morning.

becomes enlarged and scirrhus, our utmost attention should be directed to the patient's constitution; the apparent cause of the complaint; and the actual state of the parts engaged: For, a due consideration of those objects will point out to us the proper method of treating such cases.

As the testicles are liable to various accidental injuries, and inflammations in consequence, it sometimes occurs, that we meet young men, healthy, and of vigorous constitutions, who have an indurated enlargement of the testicle: In all those cases, the disease is purely local, and the constitution unaltered.

If the enlargement is recent, and is the effect of an inflammation caused by an accident, as a kick or fall, &c. in those cases, we should apply fomentations and pultices of hemlock; and put the patient on a course of the extract, purging him occasionally: And although all the hardness should not disappear, after some time; yet, by leaving it to time, and having the testicle suspended by a bag truss, it imperceptibly disappears. Even although the disease should be of a long standing, and eludes the efficacy of deobstruent

obstruent medicines; yet while the disease is not painful, and that neither the looks or health are affected, I would never propose castration: For, by time, the human constitution undergoes various changes, which may be favourable to naturally dispersing or lessening those enlargements, and to the administration of deobstruents. And if the mind of the patient be kept easy, and not filled with apprehensions of a cancer, the disease may lie for ever dormant; nor can it, in the state we have mentioned, ever injure, or taint the system with any cancerous virus.

BUT it often happens that the testicle becomes really scirrhus, it's surface rugged, and painful to the touch: In the increase of the disease, the patient's general state of health begins to be affected; he gradually loses his healthy look; his countenance appears fallow; his appetite and sleep become impaired; on the change of weather, he is affected with flying pains, particularly in the testicle and back. In this situation, if the disease does not give way to a prudent course of the extract of hemlock, we must have recourse to a very disagreeable operation. But previous to the proposing castration; it will be

be necessary to be particularly informed of the actual state of the surrounding parts.

IN every patient affected with a scirrhus, which has a cancerous tendency, however local the disease may appear, and that it has originated from an accident, yet, a cancerous virus in the general system is strongly to be suspected.

I HAVE, on several occasions, frequently experienced the development of some latent constitutional virus, from apparently inconsiderable accidents.

How often does it occur in practice to see patients, that have been deemed in perfect health, and in the prime of life, if they receive an accident attended with much confinement, inflammation, suppuration, or where the general system is much engaged, that, in the progress of the treatment of such cases, we find a scorbutick, scrofulous, cancerous, or a degenerated venereal virus, unexpectedly developed?

I HAVE met some instances, where a patient had been long confined, as for a broken leg, that painful, characterized, scrofulous

fulous swellings of the knee have been the consequence: Just so in cancerous dispositions: a slight hurt, or exposing an irritable part, as in some suppurated buboes, the virus is determined to that point, and a cancerous ulcer is the consequence.

FOR those reasons, I am much inclined to believe that cancers are seldom or never local; nor will the success, that frequently attends extirpation, prove the contrary*. For, it is not in every person, whose general system is tainted with a cancerous virus, we are to expect that a cancerous ulcer must inevitably succeed: For many of these, but for some trifling accident, might pass through life without it's being perceived, except the virus be predominantly active.

OF all those patients under forty, that I have had occasion to see, labouring under cancerous diseases, the greater number, by far, looked for the cause of their complaint in some trifling accident: Whereas, in the more advanced periods of life, when the vigour of the constitution is naturally broken down;

* Vide Note VIII.

down ; when the solids become stiff and rigid ; and the fluids tend more strongly to an acrid or alkalescent state ; in such patients, we find the cancerous virus fix on different parts, without the patient's meeting any previous accident.

It is of the utmost consequence to the patient, that the Surgeon should have a proper attention to the general state of his health : For, those, who look on a cancer to be a local disease, after they have extirpated it, think every thing done for the patient ; whereas there are many necessary attentions requisite ever after, to secure him from the danger of a relapse.

WHEN the testicle is affected with a real scirrhus, which, from the symptoms attending, we have every reason to believe will terminate in a cancer, we should, if the surrounding parts are in such a state as will justify it, propose castration to the patient, as the only resource left for his relief. The objections to this operation are :

FIRST. An enlarged, scirrhus, knotty, painful state of the spermatick chord. This certainly precludes all operation: For, in general,

general, this morbid disposition extends up into the abdomen, the whole length of the spermatick process; and it would not, in this case, relieve the patient, to have only one part of the disease, viz. the testicle, extirpated; when we should be obliged to leave the spermatick process in a scirrhus state; which the irritation, consequent on the operation, would soon precipitate into a cancerous one, and miserably destroy the patient. But, all enlargements of the spermatick chord are not of this nature: For, if the process, although enlarged, should have a soft feel, and not painful to the touch; and the patient not complain much of pains in his back, or cholic ones; it will not be an objection to the operation. For, there seldom can be a considerable enlargement of the testicle, without the spermatick chord being increased in size, more or less; and if it proceeds only from a varicous state of its vessels, and a thickening of the cellular membrane, the operation may succeed very well: For, by the suppuration, all this distension generally subsides.

SECONDLY. If the inguinal glands are enlarged, and that we have reason to apprehend, that some of the abdominal viscera are

are in the same state, the operation should not be performed.

THIRDLY. If, from the patient's looks, and general state of his health, we have every reason to be convinced the cancerous virus is diffused throughout the general system; and that the patient is advanced in years; the operation will seldom be of any permanent advantage.

WHEN it is determined to extirpate a testicle, the method of performing the operation is, either by a simple incision, or by such as that we may leave an oval piece of the integuments on the testicle: The first may serve well enough, where the testicle is but small; but where it is large, or, which is often the case, that the integuments adhere to the anterior part of the testicle, the latter method must be adopted: And, in general, in every case, as it creates very little, if any, additional pain; that it both expedites and facilitates the extraction of the testicle, and is of advantage in the future dressing; it will, I presume, be found on experience to be the more eligible.

FOR either method, the patient is placed, conveniently for the operator, in his bed; or on a table, over the edge of which his legs may hang: If he is very timid or weak, we may prefer the bed. The parts being clean shaved, the operator, standing between the patient's legs, grasps the testicle with one hand, so as to make the skin tense, while he begins his incision *, and at once extends it, from half an inch above the abdominal ring, to the bottom of the scrotum: He next lays the spermatick chord bare. And here it will be necessary to consider what will be the most eligible method to stop the hemorrhage, which will succeed the division of the chord.

WHEN the testicle is large, the vessels of the spermatick chord, both veins and arteries, become generally more or less enlarged. The two methods in use are, the ligature, and agarick with pressure. If we employ the ligature, we expeditiously stop the hemorrhage,

* Previous to making the incision, it has been a practice with some to thrust a trochar or a lancet into the testicle, in order to be sure that no collection of matter or water should be mistaken for a scirrhus: If the case be doubtful, a circumstance which rarely occurs, it may be done; otherwise, as it is attended with exquisite pain, and of no use, it should be totally rejected.

rhage, and are secure of it's not returning : In doing this, some include the whole chord ; while others * carefully dissect the artery from the cellular membrane, and only include it alone in the ligature.

THOSE who adopt the latter method, and so strongly enforce this practice, alledge, that by including the whole chord, we create a great deal of unnecessary pain to the patient ; add much to the hazard of the operation ; and that it must be deemed totally unnecessary. Those who include the whole chord, do it in order to expedite the operation ; and on the presumption that no danger can arise from this practice.

I THINK a medium can be taken between those two opinions. Where the chord is large, it unnecessarily prolongs the operation to be too circumspect in dissecting the artery clear from the other parts ; nor is it easy to do. On the contrary, to include the whole chord is imprudent ; although I have seen it often done : And notwithstanding the patient, in this case, always complains in tying the ligature ; yet I never saw any

D alarmin

* White, Gooch and Bromfield.

alarming symptoms, that I could impute to this cause.

My method is this: As soon as I lay the chord sufficiently bare, I take it between my finger and thumb, and cut it off about an inch from the testicle, if no enlargement, &c. prevents me. I then let the artery go, so as to see it plainly. Then, with a crooked needle, and flat waxed ligature, I take it up, with only so much of the surrounding parts, as will secure the ligature from slipping off. By this means, I easily avoid the inconvenience that may attend the other method.

THOSE, who use the agarick and pressure, think they save the patient much pain by that means: And a celebrated professor in Paris*, who was deemed very successful in this operation, imputed it to his dispensing with the use of the needle. But where this method was practised, I have seen the patient suffer much more, than he would by the
ligature;

* Dr. Petit, who, I suppose, adopted this method as it was strongly recommended by Mr. Petit, the Surgeon, who says he has observed matter to form in the vaginal process, above the ring, which he imputes to including the entire chord in the ligature.

ligature ; besides the fright of an hemorrhage succeeding the operation ; and being obliged to take off the dressing, when the patient, should expect some rest, after what he suffered. And after all, the ligature must often be made use of, so that I think it is better do that at first, which we may be obliged to do at last.

WHEN the spermatick chord is secured, we have nothing to impede our cautiously dissecting, and detaching the testicle, from the cellular membrane that surrounds it. A great deal has been said against the practice, which some authors recommend to operators, of detaching, with their fingers, the testicle from the loose cellular membrane, and not using the knife more. There is more said of this than it merits : No prudent operator will rudely tear out the testicle ; and none but a trifling one will make unnecessary use of the knife, where the finger can, without any sort of violence, effectually answer the same purpose, without running the risk of unnecessarily dividing the artery of the septum scroti. When the testicle is extracted, if any artery is opened, that we may expect would give us trouble, it will be proper to take it up.

IF the testicle to be extracted is very large, it will be best if the operator leaves an oval piece of the integuments on the testicle. For this purpose, having begun his incision above the ring, as in the first case, when he has come on the testicle, let him proceed, so as to leave an oval piece of the integuments on the testicle, proportioned to it's bulk. He then lays bare the chord; and having secured the spermatick artery, he will easily detach the testicle, at each side of the oval piece.

THE operation being over, some loose dry lint may be softly laid in the wound; a large pledgit spread with the spermaceti ointment over; and over all, a plaster, comprefs, &c. secured by a flannel tailed bandage. A large doubled piece of flannel, wrung out of some warm oil and camphorated brandy, should be applied to the abdomen, and occasionally renewed.

SOME time after the operation, the patient should take the antimonial paregorick*; and if he complains much of pains and twitching in the abdomen, it may be repeated at due intervals,

* Twenty drops of tincture thebaic, and fifteen of antimonial wine, in an ounce of cinnamon water.

intervals, until he becomes quiet. I generally order him a spoonful of the oil of sweet almonds, to be taken two or three times a day. He should have a pleasant saline julep, two spoonfuls to be taken every three hours; his bowels kept free by clysters; and the antiphlogistick regimen strictly enjoined until the suppuration is completed. The dressings should be of the lightest kind: Pledgits spread with spermaceti ointment will fulfil every intention. The first dressings should not be removed, until the suppuration easily detachés them.

WHEN the wound is in full suppuration, a decoction of the bark should be given through the day; and a gentle laxative, whenever the patient is costive.

WHEN the wound is near cicatrization, in those who may be suspected to have any cancerous virus in their system, I always open one or two issues, and enjoin them to have a constant attention to their regimen, &c. If this is neglected, they often derive but very little advantage from the operation; as the cancerous virus soon after seizes on some other part, perhaps nor so immediately in the power of surgery to relieve.

I shall conclude this essay with some observations on fungous excrescences of the tunica albuginea testis.

S E C T. VII.

Of fungous Excrescences of the Tunica albuginea Testis.

THE convoluted vascular substance of the testicle is invested by the tunica albuginea, a smooth, firm, white membrane. I have frequently observed, in even a sound state of the testicle, small red tubercles, like a currant, on its surface. In a morbid state, those may increase, and become funguses, or large excrescences. However this may be, we absolutely find membranes very near as thin give rise to large excrescences, without the parts, which they immediately invest, being morbidly affected. What large fungous excrescences arise from the surface of the dura matter, which, in time, even break through the cranium, and appear externally?

ternally? Various funguses arise from the membranes of the eye; and we must not imagine the tunica albuginea particularly exempt from being so diseased: That it is not, I will produce undoubted proof.

I MUST confess that, until within these two years, I looked on the more ancient idea of a farcocele to be entirely hypothetical; and that no fungus or excrescence could arise on the surface of the testicle, without its vascular texture being engaged: And therefore, I thought the practice recommended of consuming those excrescences by suppuration, and preserving the testicle at the same time, founded in absurdity, and productive of the worst consequence to the patient.

It happened, that, about two years ago, I extirpated a testicle, which I thought to be in a cancerous state *. On examining it after, it appeared uniformly enlarged, and bigger than a man's fist. As there was a hollow ulcer, from which a large discharge proceeded, it induced me to divide the whole mass into two. I was very much surprized to

* Vide note IX.

to find, that the disease, which I took at first for a cancerous enlargement of the testicle, consisted of a hard steatomatous sort of excrescence, which arose from the tunica albuginea; and the vascular texture of the testicle, incased in this tumour, seemed perfectly sound, and in its natural state.

Not long after, I had another case of the same kind, but much smaller, plainly of the steatomatous kind; and the vascular structure of the testicle was not at all engaged.

SINCE this, I have met with an hydrocele attended with such enlargements; and where the suppuration, in consequence of the application of the caustick for the radical cure, seemed to have the best effect, in reducing those enlargements to a size, that might easily be borne with; and from which there is no great reason to apprehend any future bad event*.

For the cure of hydroceles, attended with such excrescences of the albuginea, the caustick seems particularly adapted; as it may
fulfil

* Vide note X.

fulfil two very desirable intentions: the radically curing the hydrocele, and lessening those enlargements, which seem to melt away in the course of the suppuration.

It may be asked, can those excrescences of the tunica albuginea be so far characterised, before any operation takes place, as to be distinguished from a real scirrhus, or cancerous disposition of the testicle. I believe an attentive observer will gain much information in this, by paying a proper attention to the patient's general habit of body; whether there be any reason to suspect him tainted with a cancerous virus; by handling the enlargement of the testicle; if it is not painful to the touch; and the patient does not complain of those lancinating pains at times, in the part, or in his back, which we find he does where the testicle is cancerous; and that his venereal desires and feminal emissions are not lessened; for, where the vascular texture of the testicle is engaged, they must: I never met a case of this kind, but what was attended with an hydrocele. Perhaps some future opportunities may enable us to give more distinctive marks of this affection, which the cases we have produced will sufficiently authenticate.

N O T E S.

N O T E I. p. 6.

THE following case is an instance where the hydrocele returned, after the water had been twice evacuated, in a child of five months old.

C A S E I.

September, 1779.

A N healthy strong child was born with a large hydrocele of the left side. Ten days after, the water was drawn off by a puncture with a lancet. In six weeks the operation was obliged to be repeated, as the tunica vaginalis testis was as much distended as at first.

WHEN the child was five months old, as the parents were very anxious to have the complaint radically removed, the inferior
and

anterior part of the scrotum was touched with the lapis infernalis, as already directed, and the scrotum wrapped in the flax-seed pultice. The child suffered very little uneasiness, and never was a minute in any danger. The tunica vaginalis was bare in about ten days, and then burst. A suppuration succeeded, and the discharge continued for about ten days, when it gradually lessened. An indented cicatrix, which adhered to the testicle, was formed in four weeks, and the child was radically cured of the hydrocele.

N O T E II. page 8.

C A S E II.

April, 1779

A CHILD, of four years old, had been generally healthy; but subject to eruptions, that broke out, from time to time, all over her head, and from which there was a constant discharge. This, by some application, was dried up rather suddenly. Some time after, she was seized with a violent pain, as it seemed, in her bowels; costiveness

tiveness, and constant crying; the pupils of her eyes dilated: It was very hard to procure stools, Blisters were applied, but she died in the course of a week.

D I S S E C T I O N.

ON opening her head, and shaving off the superior lobes of the brain, the centrum ovale appeared vastly elevated and convex; which was occasioned by more than half a pint of water, contained in the ventricles.

I saw several children this year with an hydrocephalus internus. Their complaints were generally mistaken for worms, or mesenteric hecticks, &c. except in some chronick cases, where the head was vastly enlarged. An inability to bear the light, dilatation of the pupils, and irregular fever, are the characteristics of the disease; and generally, a day or two before they die, they suddenly become senseless, and lie in a sort of continued stupor.

WHEN the bones of the cranium easily yield to the distension of the water, the head
sometimes

sometimes is amazingly enlarged, and the disease generally becomes chronick ; as we find in those children, whose heads continue gradually to increase, almost from the time they were born. But when this disease happens to children of three or four years old, or upwards, we find it, in general, of the acute kind ; as the bones of the cranium are more capable of resisting the distension of the water, and the brain is more immediately injured in its functions by it.

NOTE III. p. 12.

THE following case will sufficiently illustrate the practice recommended, and it might be deemed rather too prolix to add more.

CASE III.

November, 1779.

AN healthy boy, between three and four years of age, had an hydrocele of the left side, for about three months before I saw him. On puncturing it with a lancet, about four ounces of water were evacuated. It filled again, in about three weeks after. I then

rubbed the anterior and inferior part, to about half the breadth of sixpence, with lapis infernalis, so as to form an eschar, and after applied the flaxseed pultice. This was repeated occasionally until the tunica vaginalis appeared distended with the water. I slightly rubbed that part until it sloughed away, and the water drained off. The scrotum and testis, that side, were inflamed and painful up to the ring. The pultice was continued, and the child purged occasionally. A suppuration succeeded, but I did not perceive any sloughs from the tunica vaginalis. The inflammation subsided, and the suppuration lessened gradually, and a radical cure was completed in about four weeks. The cicatrix remained indented, and griped to the testicle. The child never was in the least danger, although he was, by no means, taken the proper care of by his parents.

N O T E IV. page 20.

THE following case is an instance of an hydrocele returning, after the patient underwent the radical method of cure recommended by Douglas.

C A S E IV.

May, 1779.

A MAN, aged thirty, consulted me on an hydrocele, which, he said, he had been cut for, nine months before, but without effect. I examined the scrotum, and found that an oval piece had been removed: The cicatrix adhered to the testis, but water collected at each side. I advised him to let the caustick be applied, but he would not consent. I was after informed, that the operation had been performed according to Douglas's method, and as much as possible of the tunica vaginalis taken away: the whole process proving extremely painful and tedious; which frightened the man from undergoing any more radical cures.

N O T E V. page 22.

C A S E V.

November, 1771.

A YOUNG man, an apothecary, whom I used occasionally to tap for an hydrocele,

drocele, which he laboured under for some years, ventured to perform the operation himself, by puncturing it with a lancet. The next day, he found the scrotum rather fuller than before the operation.

On the third day, he sent for me. I found him in great pain, and full of apprehensions of it's proving fatal. On examining the scrotum, it appeared monstrously distended, and of a dusky black colour; which made him imagine the part gangrened. But, on assuring him that it was a general attendant on those cases, and proceeded from an extravasation of blood, he became more settled, and readily consented to my laying open the sack; which I immediately performed, extending the incision the whole length of the tumour. I discharged a great quantity of blood, some fluid, and some clotted. The testicle was not to be seen, nor the inside of the sack, being covered with the extravasated blood.

THE subsequent symptoms were extremely mild. An abundant suppuration succeeded; the parts became clear; a cicatrix was formed in about two months; and the patient

ent was radically cured, and remains so, it being now eight years ago.

N O T E VI. page 32.

THE following is an instance of the good effects of internal medicines in those cases, for preventing the return of an hydrocele after tapping.

C A S E VI.

November 1779.

A MAN, aged forty-five, had, for some months before he applied to me, both testicles much enlarged, and knotty tumours up the spermatick chord. The right was most engaged, and an obscure fluctuation was perceptible. It gradually increased, and the distension of the tunica vaginalis was attended with much pain. It was of a globular form, which is rather unusual. He seemed to have his liver affected, and was of a corpulent fallow habit of body.

I EVACUATED the water of the right side; put him on a course of deobstruent pills, chiefly composed of soap and extract of hemlock,

lock, &c. had his scrotum stuped with a decoction of hemlock, and purged him occasionally. By this method, all hardness gradually disappeared. He had no return of the hydrocele, and enjoyed better health than he did for some years before. Here was an hydrocele depending on a constitutional affection, and was prevented from returning by internal means.

N O T E VII. p. 34.

C A S E VII.

April 8, 1777.

A BOY of sixteen years of age came into the hospital. The account he gave of his case was as follows: That, in January, 1776, some pimples of a bluish cast appeared on his leg; which turned into a scorblick fore, that dried up in summer; and then his belly began to swell, especially in the morning: This was imputed to worms, to which he was extremely subject. In February, 1777, the fore broke out again, attended with such another eruption on his finger; and soon after he perceived the right side of his scrotum much enlarged, on his
getting

getting up: This he did not tell, until a few days before he came to the hospital.

ON examination, there was an uniform swelling from the abdominal ring to the bottom of the scrotum, that side, like a large hernia; but I found a plain fluctuation in it, and made a puncture as in the hydrocele, and evacuated a naggin of water: The scrotum was immediately lessened, but the tunica vaginalis of the spermatick chord appeared still full.

THREE days after, I perceived a fluctuation in the abdomen; and, by the patient's keeping in bed, the swelling on the tragit of the spermatic chord disappeared; but on his getting up, was as large as ever. I now perceived that the water returned into the abdomen, when he lay down, and into the spermatick process, when up. I made a longitudinal incision on the process, and laid bare what, to appearance, resembled an hydatide, as big as an egg; which, on puncturing, discharged much water: Its coats, although pretty thick, were transparent. Introducing my finger, I found the abdominal ring much dilated; and, on pressing the belly, the water always gushed out. Near three pints might be

evacuated. He was lightly dressed, and a soft emollient pultice applied over the scrotum, &c.

SOME time after, the tunica vaginalis testis seemed to be much distended with water; and, on puncturing, it discharged better than a naggin of clear water. The incision over the spermatick chord digested well; but the coats of the hydatide were raised up into a hard sort of fungus, which, by the suppuration, gradually subsided.

THE tunica vaginalis testis filling soon again, I applied the caustick. The scrotum was, in consequence, puffed for some days, attended with a slight degree of fever, which soon subsided, and a plentiful suppuration succeeded. Water came out now and again from the incision over the spermatick chord. Nothing particular intervened during the treatment; and the boy was discharged, about the middle of June, radically cured of an hydrocele of the tunica vaginalis of the spermatick chord by incision, and that of the tunica vaginalis testis by the caustick, and I sent him down to the country. Towards the close of the treatment, I put him on a
course

course of deobstruent pills, with the bitter infusion.

N O T E VIII. p. 44.

MR Hill *, in the course of thirty years practice, extirpated eighty-eight cancers, and says he succeeded in seventy-five; so that only thirteen, out of the whole number, suffered a relapse. From which he concludes, that by far the greater number of cancers are local, occasioned by some accidental hurt; and that, on removing the diseased parts, the constitution remains sound; except when, by long delay, the blood is infected by the ichor of cancerous ulcers absorbed into the circulation. He therefore strongly advises us never to allow a cancer to continue till it be ulcerated.

MR. Monro †, on the contrary, asserts, that, of near sixty cancers, which he had been present at the extirpation of, only four patients remained free of the disease for two years. Three of these lucky people had occult

* Vide his Cases in Surgery, p. 73.

† Vide the Edinburgh Medical Essays, vol. V.

occult cancers in the breast, and the fourth had an ulcerated cancer of the lip. Upon a relapse, the disease was more violent; and made a quicker progress than it did in others, on whom no operation had been performed. He proposes it as a doubt, whether cancerous tumours ever ought to be extirpated; and says he has seen two instances where a cancer has been cured by other means.

WHOEVER will read Mr. Le Dran's * observations on this subject, will find they very much coincide with those of Mr. Monro: So that it is not easy to reconcile with experience the superior success that Mr. Hill had in extirpating cancers; as the operation in itself is quite simple, and requires no particular dexterity. It is much more probable to believe, that many of the cases he relates were not really cancers.

WE find, in by far the greater number of patients who have scirrhus tumours, a constitution, that may be said to be particularly disposed to form this disease, however an accident should, in appearance, seem to have given rise to it: Such are hypochondriack men,

* Vide Memoires de L'Academie Royale de Chirurgie, tom. III.

men, of a fallow countenance, subject to erratick pains, and of an irritable habit of body: And women, who have been irregular, as to the menstrual discharge, hysterick, and, if married, remain without having any children. Whether, in those, what the ancients called an atra bilis, or the moderns a lentor, or tenacity, in the fluids, ever takes place in the general mass of humours, which might incline them to stagnate in the most intricate and vascular texture of the glands, is a very doubtful question.

THE manner, in which those tumours generally make their appearance, leaves us no room to judge, that they are the effect of a slow accumulation of tenacious fluids in the vascular texture of the glands: For, on enquiry, we find, by the general account of the patients, that they have appeared suddenly; so as, in some, to make them imagine they were struck with something; and, on applying their hand to the part, they feel a tumour completely formed. This would rather lead us to imagine that a pre-existing cancerous virus, determined to a gland, acts as a stimulus, to excite such an increased contractility in the surrounding vessels, as so rapidly to form the tumour.

WHEN

WHEN this event takes place, from the peculiar intricate vascular structure of the glands, which so readily admits a stagnation of the fluids, and where the general circulation has so little influence, we will not be surprized that a complete discussion is so difficult to attain.

EXTERNAL stimuli, such as proceed from different injuries, as blows, &c. may be said to produce similar effects: But with this difference, that, as the fluids are not vitiated, of course our apprehensions are less alarming.

WHEN a scirrhus tumour is formed, it often lies for years, without either increasing or diminishing; or if it does, it is in so gradual a manner, as that it's progress is almost imperceptible to the patient, and is attended with little or no pain, except at certain periods: as that which precedes the menses in women, or hemorrhoides in men; change of weather, or some intemperance in point of regimen. In this case, it seems as if nature, after depositing on some gland, rids the general mass of humours of the cancerous virus; until, by a new accumulation, or some accidental intemperance, either more or less is thrown on the gland, or the stagnant hu-
mour

mour becomes a principle of irritation. Of this we find the most frequent examples in scirrhuses, that appear in those who are in the prime of life, or little removed from thirty. After the first effects of the scirrhus subside, if inquietude of mind does not prompt the patient to tamper much with the complaint, the scirrhus very often lies inoffensive; until after that period, the cessation of the menses, so critical in women, takes place; or, in men, until the natural vigour of their constitution gives way.

THIS period is but too often accelerated, either by intemperance, a sedentary life, or continued melancholy cast of mind: As here, the digestive and concocting faculties become gradually impaired; and that energy in the circulatory system, so necessary to maintain a due tonus in the solids, is of course daily decreasing; the fluids, for want of a proper renovation, by degrees become vitiated, and tainted with different species of acrimony; which will excite the cancerous ferment, already deposited in the glands, to action.

BUT those scirrhusous tumours, which appear in women on the decline of life, after the menses have quit them, or who have large
hemorrhages

hemorrhages from the uterus at irregular periods; or in men of broken down solids; those seldom remain long at a stand, but increase rapidly, and burst soon into cancers.

It is extremely essential, to the forming a just prognostick, to take into consideration every circumstance relative to the patient's age and constitution; how long the scirrhus has been perceived; and the part in which it is seated: For, those scirrhuses that arise from accidental blows in a glandular part, in young people otherwise of good constitutions, generally give way, if judiciously treated: Whereas in those that may be said to arise from a vitiated habit of body, and in patients who are in the decline of life; and that the tumour daily increases, attended with shooting pains, &c. we have every reason to dread the event: more particularly, if so situated that the removing it, if necessary, will be attended with imminent danger to the patient's life. The glands of the breast, axilla, submaxillary, parotid, inguinal, the testes, and uterus, are generally those that come more frequently under the surgeon's direction.

PERHAPS there is no disease productive of
so

so much inquietude to the mind, particularly in the female sex, as scirrhus tumours: Every enlarged gland, if seated in the breast, threatens a cancer, they think: And those melancholy apprehensions beget that constant sollicitude, we find in those patients, to try every application, that, on enquiry, they may hear, has been productive of any good effect in similar cases. This disposition of mind, joined to constantly feeling, or irritating the tumour by a variety of applications, often changes, into a real scirrhus, a tumour, that otherwise would have remained inoffensive, during the patient's life, or would have gradually dispersed. Of this, there are but too many melancholy examples.

In all those cases, it will contribute much to the success, of whatever method of treatment we may adopt, to use every endeavour in our power to banish from the patient's mind every idea, that may incline him or her to believe the tumour to be of a cancerous nature: Our real sentiments we may disclose to the patient's friends.

I HAVE been imperceptibly led into this long digression; but, as it is connected with the

the present subject, I hope it will not be deemed altogether useless.

N O T E IX. p. 55.

C A S E VIII.

August, 1777.

A YOUNG man, aged twenty-four, robust, and except a slight sort of scorbutick eruption, apparently healthy, came to the hospital with a large hydrocele. He said it was occasioned by a squeeze a boy gave him in the left testicle, twelve years before; from which time, the swelling gradually increased to its present size. On examining it, I found the testis both much enlarged and uneven: and there appeared a good quantity of water in the tunica vaginalis; the spermatick process was also enlarged, but soft. I tapped him, and drew off half a pint of water; and having more particularly examined the testicle, I perceived it was of a large bulk.

As he was very desirous to be radically cured, and having no pain in the back, or elsewhere, I advised him a previous course
of

of the Lucan Spa *. This he drank for six weeks, and the scorbutick eruptions disappeared. I now took him into the hospital, the tumour being nine inches and an half in length, and thirteen round.

I applied the caustick, according to Mr. Else's directions, on the anterior and rather middle part of the tumour; as the teguments were there thinner, and more prominent: besides, to apply it more inferiorly was too near the scirrhus. In three or four days, the sloughs separated; and the tunica vaginalis appeared, which was much increased in thickness: When it seemed very thin, I punctured it with a lancet, and discharged much water. A suppuration took place. He had no pain or tension of the belly or back, or fever of any consequence. After eight days, he got up every day, the scrotum being supported by a suspensory, and pulticed. A plentiful discharge of matter succeeded, and a gradual diminution of the tumour. The eschar had been something more than the breadth of a shilling.

THE parts now appeared florid, and were contracting, and an adhesion took place between
tween

* A cold sulphureous Spa near Dublin.

tween them and the scirrhus; but a discharge of matter continued from a deep part of the scirrhus. Although the hydrocele seemed perfectly cured, and the tumour decreased considerably, yet a large scirrhus remained; and a discharge of matter from it, through a small aperture, left unclosed after the caustick. The tumour would sometimes be enlarged prodigiously: Therefore, having before tried a mercurial alterative course, with a decoction of *sarsaparilla*, for near two months, I resolved to extirpate the testicle.

Having laid him on a proper table, I made an incision, beginning above the abdominal ring; and continued it, so as to leave an oval piece of the integuments on the testis. I then laid the spermatick chord bare, and observed its tunica vaginalis greatly increased in thickness. Having divided it, I took up the artery; and so finished the operation, by dissecting out the testicle.

On examining the tumour, I found it to consist of a white, scirrhus, or hard steatomatous, sort of substance*; and was in size, when stripped of the teguments, as large as a man's fist. On dividing it in the middle,
I found,

* Vide Plate I.

I found, at it's inferior part, the testicle found in every respect, and no way increased by it. The whole tumour was so compact, as to seem somewhat gristly. In the middle of it's superior part, corresponding to the small aperture, where the caustick was applied, there was a cavity, like where an almond had lodged, containing an acrid green matter,

SOME hours after the operation, there was an hemorrhage, pretty considerable; and I was obliged to take up two small arteries. After this, he had not the least disagreeable symptom, pain of the back or belly, or indeed any fever to speak of; and in about a month, the wound was but a simple line, and nearly cicatrized. From his bad habit of body, that scorbutick scaly eruption again covered his thighs, and made the fore have a foul appearance near the abdominal ring; but, by the mercurial pill, and decoction of sarsaparilla, he soon got well, and left the hospital, in eight weeks from the operation, a robust fellow.

C A S E IX.

June, 1778.

A MAN, aged forty-five, three months before he came into the hospital, got a swelling in the left testicle; which gradually increased, and became hard, and exceedingly painful. On examining it, I found it of the size of a large turkey egg, very hard backwards, but a small collection of matter on it's anterior part. He complained of a pain in his back, and had much declined in flesh: his appetite and sleep were indifferent. I let out the small collection with a lancet; and, on introducing my finger, found the parts underneath very hard. The edges of the opening, in some days, became inflamed and very painful; so as, in some time, to degenerate into an ill conditioned ulcer.

He was put on a mercurial alterative course of calomel, purged off every three days. When the inflammatory diathesis was over, he got the bark in decoction; and Goulard's lotion and pultice were applied. This not succeeding, the hemlock juice was given, to the quantity of four spoonfuls a day;

day; he was dressed and pulticed with it: And certainly the appearances soon changed for the better, and the ulcer became clean, and, in the course of six weeks, healed; but the scirrhus testicle remained little diminished, attended with acute pains at times.

FINDING every mode ineffectual in diminishing the bulk of the testicle, and fearing things would change for the worse, I proposed castration, to which he readily agreed.

Having laid him on the operating table, his legs hanging over the end, I made an incision above the ring; and continued it, so as to leave an oval piece of the integuments on the testis. Having cleared the spermatick chord, and divided it, I took up the spermatick artery. I then separated the testicle, and dissected it out. Having dressed him, I applied a flannel dipped in oil and spirits to his belly, which was to be occasionally renewed. When he was put to bed, I gave him the antimonial paregorick. He complained all that day of a great pain in his belly and back *. The embrocations were
F repeated,

* This complaint is a frequent attendant on this operation, let the mode of operating be what it may; although it has been imputed to the including the entire chord in the ligature.

repeated, and a saline julep, with some tincture thebaick and antimonial wine, ordered him.

The next day he was much easier: the saline julep continued, a paregorick at night, and the embrocations repeated. The third day I dressed him; every thing promised fair, the suppuration commencing. The dressings were pledgits spread with liniment, softened with two parts of spermaceti ointment.

WHEN the suppuration was established, a decoction of the bark was given, with some sal sodæ saturated with lemon juice in it, two drachms to a quart of the decoction. He never had any disagreeable symptom intervene. A spoonful of oil of castor was given him occasionally to keep his bowels free; and he was discharged the hospital well, and rather fat, two months after the operation.

Having divided the tumour lengthways, as in the preceding case, I found the vascular texture of the testicle sound. The excrescence, which seemed steatomatous, and to be here and there in suppuration, arose from the tunica albuginea backwards; in which
were

were confounded the convolutions of the vas deferens and epididymis. I designed to have had a drawing of it, but it was imprudently thrown away. Neither of those tumours seemed of the cancerous kind.

N O T E X. page 56.

C A S E X.

August, 1779

A M A N, aged fifty-nine, perceived a swelling of his left testicle, which continued slowly to increase for five years, unattended with pain. After hard labour, the scrotum, which before was in a natural state, became considerably distended, and continued to increase until I saw him, which was nine years after the first commencement of the complaint. He had the largest hydrocele I ever saw. Having punctured it with the small flat trochar, which answered much better than the common one, or lancet, I drew off more than three pints of water, applied a suspensory, &c. The testicle seemed much enlarged.

THREE days after, he came to me with the tumour near as large as before he was tapped. I took him into the hospital; and after stuping and pulticing, and such evacuations as were necessary to abate any inflammatory diathesis, when the pain subsided, the tunica vaginalis being vastly distended, I applied the caustick as usual. The scrotum was wrapped in the flax-seed pultice, and a paregorick given him.

It took me up ten days, occasionally applying a fresh caustick during the time, before the tunica vaginalis became thin and bare: For, as this membrane was prodigioufly increased in thickness, several laminæ of it came off, before the water was perceptible. After this, I just made a puncture with a lancet. Half a pint of water might have been then evacuated, and it continued to drain off for three days; after which an abundant suppuration took place. The parts gradually contracted to about the size of a turkey egg.

THE man, during the whole process, suffered but very little pain: no fever or inflammatory tension attended. When the suppuration was established, pills of extract of hemlock

hemlock, and a decoction of the bark, were given him. A collection of matter appeared, above where the caustick was applied, to which I gave exit. After this, the enlargement considerably diminished, and the pain abated. He left the hospital radically cured of the hydrocele; and although the enlargement has not entirely subsided, yet it does not trouble him; and he is perfectly easy, free from pain, and able to earn his bread. I lately saw him, and find the scrotum has an healthy look; the cicatrix is sunk, and adheres to the enlargement; which I find has so diminished by the suppuration, that I think there is very little danger of it's ever troubling him *.

I HAVE every reason to think that the vascular structure of the testicle was not engaged, any more than in the two preceding cases; and that the enlargement consisted in a fungous excrescence of the tunica albuginea; which, I believe, has not, in general, a cancerous tendency. Had not the two preceding cases occurred to me, I certainly would have castrated this man, if he would submit to the operation.

F 3

SINCE

* The testicle at present is nearly reduced to it's natural size.

SINCE the preceding Tract was written, the following Cases have occurred to me, and will contribute still farther to illustrate the subject.

C A S E XI.

October, 1780.

A YOUNG man, aged twenty-one, generally healthy, perceived, about six months ago, an enlargement of the left testicle: It was attended with no pain, and gradually increased. In the beginning of June last, he applied to me. I found, on examination, a large oblong hydrocele: He never had any venereal complaint, nor did he receive any hurt, that might occasion it. I tapped him, and, as he wished to be radically cured of his complaint, desired him to come to me, when it would fill again.

Six weeks after, he applied to me: The tunica vaginalis was not as much distended as at first. I took him into the hospital, and, after ordering a dose of physick, I resolved to pass the seton: No fairer case apparently could offer.

THE next day, I passed the seton in Mr. Pott's method. The operation was easily and expeditiously performed: the patient suffered very little pain. After he was put to bed, I gave him twenty drops of thebaic tincture, in some cinnamon water. In about three hours, after the operation was performed, he had a violent reaching, and was in great pain, which obliged me to repeat the paregoric.

THE following day, I found he passed the night indifferently, but the reaching subsided, on viewing the testicle, I found it enlarged, and very painful: the pain extended up the spermatick chord. I ordered him to be bled, an emollient clyster to be injected, and the testicle to be wrapped in the flax-seed pultice: He had a saline julep, with some tinct. thebaic in it, to take through the day, and a paregoric at night. The testicle remained still very large and painful: A suppuration appeared, in about four days, at both ends of the seton. The antiphlogistic regimen was continued, and his bowels kept free by castor oil, or clyster.

ALTHOUGH the suppuration increased, yet the swelling of the testicle was not materially lessened,

lessened, the twelfth day, when I began to withdraw the seton; and, though I only withdrew two or three threads at a time, I found it gave him considerable pain, notwithstanding I cut off the crufted part of the seton; which I think should always be done, previous to drawing the threads: For, trifling as this caution seems to be, if not attended to, the drawing the threads, the ends of which are stiff, and hardened with blood, &c. will give a great deal of unnecessary pain; which will be avoided by cutting them off, at the place where the seton is wet with the suppuration.

AFTER the seton was entirely withdrawn, although the swelling kept up, yet the pain subsided; and he was able to get up, a few hours in the day. He daily took the decoction of the bark, from the time the suppuration seemed fully established, and the pectorick was laid aside.

TOWARDS the close of the third week, the testicle became suddenly enlarged and painful, and there was a deep fluctuation to be felt, posteriorly, one side of the lower aperture of the seton. Three days after, it was so evident, that I gave it exit with a lancet. The
matter

matter was collected in the tunica vaginalis posteriorly. After this, all enlargement considerably subsided, as well as the pain. From the superior aperture of the seton, there was a considerable discharge of matter.

WHEN the discharge below began to decrease, the beginning of the fifth week, another collection of matter formed, superiorly, towards the septum scroti. After I gave this exit, the case became very favourable: The swelling gradually subsided, the suppuration diminished, and the patient was discharged the hospital cured, the eighth week.

ALTHOUGH the success of this operation does not correspond with the cases Mr. Pott has produced; yet the effects have been very similar in all those cases, in general, where the seton has been passed, in which I have been either concerned, or have had an opportunity of hearing from other practitioners.

THE operation, and treatment after, is extremely simple, and obvious to every practitioner, that no unfavourable symptoms can well be imputed to an error in those respects: But, I presume, both reason and experience will convince us, that, where we immediate-

ly

ly expose the testicle to the contact of an extraneous body for ten or twelve days, at which time the seton seems as buried in it, we cannot expect the symptoms will be so favourable, as in the method by the caustick, where those disadvantages are avoided.

C A S E XII.

October, 1780.

AN healthy robust man, aged thirty, got a clap, about a year antecedent to the present time; after two months he had still a running, and from a drink of cold water, as he imagined, his right testicle swelled. He tried various applications, and it subsided; but a fulness, which gradually increased, was the consequence. On his applying to me, a year after, I found he had an hydrocele, more globular than is common; and, from the teguments not readily yielding to the distension of the water, it was painful. I drew off the water with the flat trochar, and suspended the scrotum.

IN about three months, he came to me, it
being

being full again: He had, besides, a difficulty in making water, and was in imminent danger, since I saw him last, from a retention of urine. He was willing to undergo the radical cure by caustick, and I took him into the hospital. The sack was not as full as when I first tapped him. After ordering him a dose of physick, I applied the caustick, composed of lapis infernalis beat up with soap, and gave him twenty drops of tincture thebaic after.

ON taking off the caustick, I found it had run to more than the breadth of a crown *: the man felt a good deal of pain. The testicle, next day, became considerably enlarged, and painful. The whole scrotum was wrapped in the flax-seed pultice, and the paregorick repeated at night: A saline julep given through the day. The third day, the enlargement of the scrotum, and up the spermatick chord, was very painful; and he had a pain in his back. I ordered him to be bled, an emollient clyster to be given him, with some spoonfuls of a laxative mixture, so as to procure four or five stools, and the paregorick

* This accident happened by using part of a caustick, that was prepared for another man the day before, so that it was wet,

regorick as usual. The fourth day the pain of his back subsided; but the scrotum was very painful, inflamed, and the tunica vaginalis appeared black and tense; round the circumference the sloughs began to separate. Fomentations, the emollient pultice, saline mixture, paregorick at night, and a loose belly, was the treatment.

Although the tunica vaginalis was engaged in the slough, yet I did not puncture it until the eighth day. The water gradually drained off: the whole scrotum was very painful, and the fore sloughy. His belly was kept loose, and I gave him the bark.

ABOUT the sixteenth day the entire tunica vaginalis separated, and came away: It was some lines thick. From this time the pain subsided, and a large suppuration took place; the testicle appeared, with the tunica albuginea, entirely covered with granulations; the fore began rapidly to contract; all pain subsided; and, at the end of four weeks, the scrotum was nearly of its natural size, and the fore not the breadth of a shilling; and at the end of six weeks, he was entirely well.

Accident here shewed me the effects of a large caustick; for I did not intend that the eschar should be more than the breadth of a sixpence: However, I was agreeably surprized to find the symptoms, although painful, by no means hazardous; as the man was not a moment in danger, and the radical cure is certain.

IN Elfe's method, I never could observe the tunica vaginalis entirely slough away, nor do I believe it generally happens *. But, in this case, one sphere of it was exposed by the caustick, and separated entire; for, by gently pulling with my forceps, it came away. From this case, I am inclined to believe that the caustick may, without danger, and even to advantage perhaps, be applied to a larger extent.

C A S E

* Mr. George Stewart, surgeon to the Royal Infirmary, who has an extensive practice in this line, has been so obliging as to inform me, that he has radically cured twenty-one patients of the hydrocele by the caustick of lapis infernalis, in Elfe's manner, without any disagreeable accident intervening; nor has he perceived, that the tunica vaginalis has sloughed away in any, as mentioned by Mr. Elfe usually to happen; and they all got well from four to six weeks.

C A S E XIII.

January, 1781.

AN healthy young man, aged eighteen, had water collecting, for fifteen months, in the tunica vaginalis of both testicles. Both hydroceles were oblong, and almost transparent from the thinness of the integuments. After bleeding, and ordering him some cooling physick, I applied the caustick of lapis infernalis and soap to the right; and as it was so oblong, about the middle of the tumour. The eschar separated in the usual time, and the tunica vaginalis burst, the water drained off: A suppuration soon succeeded, and the cure was effected in about five weeks.

During the inflammatory period, the left testicle became inflamed, so that I punctured the sack to see whether the degree of inflammation would effect a cure; but it did not, for the sack filled in the fourth week of the treatment. I then simply rubbed the lapis infernalis on the inferior part, and soon formed an eschar near the bigness of half a crown. After the water had been discharged by puncture,

ture,

ture, and the suppuration had detached the eschar, the tunica vaginalis appeared crude and thickened, and separated intirely in some days, and came away. The fore rapidly contracted, and the young man was perfectly cured of his double hydrocele in two months. He never was in the least danger, nor was the whole process of the cure attended with fever, or any considerable pain. His bowels were kept free, and the bark was given after the suppuration was formed. An opiate was seldom requisite.

I have generally observed that, on discharging the water, the patient's stomach turns, and he inclines to faint. This is a nervous affection, which a few drops of tincture thebaic given will prevent. The flax-seed pul-tice, &c. may be dispensed with, in a great measure, and compresses dipped in oil and spirits substituted.

C A S E XIV.

July, 1781.

A MAN aged fifty, had the caustick applied to an hydrocele of the right side. The inflammation ran very high, the
suppuration

suppuration was ill conditioned, and the whole tumour, at the end of five weeks, put on the appearance of a large sarcocele. In this condition he came to the hospital, as castration had been proposed to him, in another, as the only resource: And I really, on examining the tumour, which was as big as a large melon, advised him to submit to it, but he refused it.

I ordered him to stupe with a strong decoction of hemlock, and pultice with the leaves; and gave him some calomel, which was purged off occasionally. In about a week's time, there was a remarkable change for the better. A large suppuration succeeded; the tumour gradually lessened; and in about a month's time he got radically cured of the hydrocele, and the enlargement gradually subsided.

In all those cases, we should be very cautious in proposing castration; for if we have but patience, and follow this line of conduct, an happy termination of the disease frequently succeeds. I have seen similar cases, in which castration was performed, and on examination, found the testicle not materially engaged, the whole tumour being formed by the thickening and inflammation of the tunica

tunica vaginalis testis: One in particular occurred to me in practice: The tumour was amazingly large; the testis was entirely disengaged, being rather less than natural; but the tunica vaginalis formed a thick sack, much like a scooped melon; and where it is thickened we cannot expect it will suddenly contract, as that must be in consequence of an abundant suppuration.

C A S E XV.

August, 1781.

AN healthy lad, aged eighteen, had, for two years before he applied to me, an hydrocele of the left side, every way well circumstanced. After the usual preparation, I passed the seton in Mr. Pott's method: No particular circumstance attended the operation. He got the antimonial paregorick a little after. In the evening he was very restless, complained much of pain in the testicle. He was bled, a clyster injected, and the paregorick repeated at night. He passed the night extremely ill.

THE next day, the testicle and scrotum
G were

were quite inflamed, and he had a very smart fever. He was in such pain that I withdrew the seton, which had been in but fourteen hours; ordered him to be largely bled, a laxative to be administered, a saline julep with some drops of tincture thebaic to be given through the day, and to be stuped, and pul-ticed with the flax-seed pultice, the paregorick at night as usual. The fever notwithstanding increased; he became delirious at night. The effervescent draughts were given him occasionally. His pulse was quick and light, his skin intensely hot, his tongue parched, and he had an incessant thirst, his eyes appeared quite heavy, and as it were swimming in tears. Stools were procured by clyster, or gentle laxatives.

THE fourth day, he was covered with miliary eruptions, without any remission of the symptoms; he raved constantly. The same line of treatment was continued.

ON the sixth day, the miliary eruptions spread into pustules, so as completely to cover his entire surface. After this, various abscesses formed in different parts of the scrotum, to which I was obliged to give exit. When the feverish erithism subsided, the

the bark was given. However, he continued for three weeks in such a state, that I thought every day would be his last. A large quantity of matter formed in the tunica vaginalis, to which I gave exit by a pretty large opening: The testicle appeared covered with the albuginea in a state of incarnation. Things now began to wear a more favourable aspect, but the testicle still continued extremely enlarged; so that I thought there was a collection of matter formed in it, and punctured it with a lancet: I was mistaken, but no bad consequence ensued. He had a very slow recovery, and was not quite well to be discharged until nine weeks were expired; and the testicle remains still large, but I believe it will gradually come down.

THIS man ran a severe risk of his life, as he was in continued danger for three weeks. The season of the year indeed, it being the dog days, was against the operation; but still the inflammatory symptoms ran vastly higher than I ever saw before; and the general erithism was much greater, although the seton was so soon withdrawn. I am more and more convinced of the danger attending the

seton, and of the preference we should give the caustick in most cases.

I am indebted, for the following Cases and Remarks, to Mr. James Henthorn, Surgeon to the House of Industry.

JOHN Richardson, aged fifty, of a robust constitution, was admitted to the hospital of the House of Industry, on the 6th of February, 1780. About three years and an half before, he had perceived a swelling in the right side of the scrotum, which continued to increase without pain for about half a year; when he perceived a swelling on the other side, which continued also to increase without pain for three years: During that time he had been once poxed, and had also had a virulent gonorrhœa, but unattended with an hernia humoralis. The tunicæ vaginales were so much distended, that the spermatic process could not be distinguished on either side.

ON the 9th, I pierced the tunic on the right side with a trochar, and drew off about three pints of bilious water, and passed a seton, according to Mr. Pott's method, on that side, in preference to the other, upon a supposition that, that tunic would be found thicker and less irritable. I then passed a trochar into the left side, which discharged about the same quantity of the like kind of fluid; but I did not pass a seton on that side, from an apprehension that the inflammation, arising from two setons, might not be sufficiently under control; and from an hope that the inflammation, caused by the introduction of a seton on one side, would (by consent of parts) be communicated in a sufficient degree to the other, so as to produce a radical cure of both. The testicles, together with their processes, were found in a natural state; and I ordered him an opiate, to be taken at night.

10th, I found the scrotum much swollen, and the testicle, on the right side, considerably enlarged, and very painful. He had spent a restless night, owing, in some measure, to the nurse-tender's having neglected to give him the paregorick draught.

11th. He had got an opiate last night, and rested well: his pulse quiet; the scrotum and testicle nearly in the same state as the day before; a small quantity of pus discharged from the upper orifice of the seton. He had three stools in consequence of taking a purgative. The scrotum was fomented, enveloped in a bread and milk pultice, and suspended in a bag truss.

12th. Rested well, no fever, the pain not considerable, although the right testicle continued large and hard; the scrotum on the left somewhat tumid, and suffused with a slight inflammation; a copious discharge of good matter from both orifices of the seton.

13th. Nearly as yesterday, the right testicle rather larger, no appearance of inflammation on the left side; but a considerable quantity of fluid felt within the tunica vaginalis.

14th, and 15th. Nearly in the same state; the opiate still continued: pulse rather fuller. Body kept open by a purgative.

16th. The inflammation somewhat abated, the pain much less. He did not take a paregorick draught last night, and slept tolerably well.

well. He continued nearly in the same state till the 23d.

24th. Matter forming on the right side. March 8th. The seton was withdrawn. The inflammation immediately subsided, and for several days a considerable quantity of pus continued to be discharged, from the cavity of the tunica vaginalis, through both the orifices; on the ceasing of which he was dismissed radically cured of his hydrocele, on the right side only.

April, 1781, he came again to the hospital, with the vaginal tunic, on the left side, as full of water as it ever had been; and on the 3d of that month, I passed a seton. For two or three days, there was scarcely any inflammation. I then moved the seton up and down, so as to irritate the parts, and give him considerable pain. A very smart inflammation succeeded, sufficient to produce a small collection of matter in the dartos, on the left side; notwithstanding which, I did not withdraw the seton for twenty days; and he was discharged the hospital on the 22d of May; but not radically cured.

ROBERT MAXWELL, aged sixty-four,
was

was admitted to the hospital in April 1781: He had an hydrocele of long standing on the left side. On the 10th, I drew off the water, and passed a seton; but as he appeared to me to be of a very irritable fibre, I smeared the silk with linimentum album.

12th. I found that I had not been wrong in using that precaution, as the inflammatory symptoms ran so high as to threaten the worst consequences. I immediately endeavoured to withdraw the seton, and succeeded without giving him the smallest pain, as the liniment had prevented the seton from adhering to the tunica albuginea. Several collections of matter followed, and the testis and spermatick process continued enlarged and painful for a considerable time. But these symptoms all subsiding, he was discharged radically cured on the 3d of July.

FROM these cases I think it may be inferred;

1st. THAT, the inflammation caused by passing a seton through the tunica vaginalis, on one side, will not be communicated to the tunica on the other side.

2d. THAT

2d. THAT the seton is not infallible ; that it sometimes causes more, and sometimes less, inflammation than is necessary ; and sometimes, although the inflammatory symptoms run high, does not effect a radical cure.

3d. THAT an entire cohesion of the tunica vaginalis and albuginea does not always take place, when a radical cure is produced.

FROM the numerous opportunities I have had of passing the seton, in the House of Industry, where the average number of people, communibus annis, exceeds one thousand, and this disease very frequently occurs, I hope I may assert, without the imputation of presumption, that a total cohesion of the tunics does not always exist, when a radical cure of the hydrocele is effected, either by a seton, caustick or tent : Nor is it, in my opinion, necessary, (in order to account for the disorders not returning) to suppose such an union to have taken place.

I BELIEVE it is generally admitted, that this disease is occasioned by an obstruction of the absorbent vessels of the tunica vaginalis :

vaginalis: Then surely, if, by any means, an equal obstruction of the secretory vessels can be procured, it will as effectually prevent the accumulation of a fluid within the tunica, as if it's cavity was totally obliterated.

A COM-

A
COMPARATIVE VIEW
OF THE
Different Methods of Cutting
FOR THE
STONE,

With some REMARKS on the MEDICINES
generally exhibited as SOLVENTS of the
STONE.

THE diseases of the urinary bladder have, from the earliest times, formed a principal object of medical enquiry. Down from Hippocrates to the present day, we find, in all general systems of physick, that the stone, ulcerations of the bladder, retention of urine, have particularly engaged the attention of authors; at the same time that the patients, who laboured under those dangerous and painful complaints, were given
up

up by the regular practitioner, and generally fell under the direction of daring empiricks and quacks.

THAT this was generally the case throughout Europe, until within this century, will, I presume, be readily admitted by those who are conversant in the medical transactions antecedent to the above period; nor, at this day, is the regular practitioner so generally employed, in the most delicate operations, but that, sometimes, the lithotomist, or oculist, will be preferred before him.

It is much to be regretted that the promise, which Hippocrates exacted from his pupils, of not cutting for the stone, but leaving that operation to those who made a particular profession of it, was not only kept by his successors; but, that most of the capital operations were equally relinquished: A circumstance which greatly retarded the advancement of surgical knowledge; and, to the great prejudice of mankind, split surgery into so many branches, that almost every operation formed a distinct profession. This was so far from being useful, in rendering those more expert, who applied themselves only to one particular operation, that it precluded

cluded the regular furgeon from the advantage of experience, and consequently the operation from being improved; and threw the operative part of furgery into the hands of the most illiterate quacks, who, as their bread depended on operating, often operated without any kind of necessity, and were incapacitated by their ignorance, and general want of conduct, from deriving any advantage from experience, or from improving the operation, by which they gained a livelihood. The disease, which makes the subject of those observations, strongly evinces the truth of what is here advanced.

It is very evident, that Hippocrates did not consider the diseases of the bladder, with that degree of attention, he usually considered other disorders; and that he relinquished this part of practice to those who confined themselves to cutting for the stone; the more particular investigation, of those disorders, being reserved to the time of Celsus.

CELSUS considers blood, or pus, in the urine as sure symptoms of either the bladder or kidneys being ulcerated. If the urine be thick, and something like hairs or caruncles

runcles appear in it; or, if frothy or fetid, or mixed with sand or blood, attended with pains about the pubis, frequent eructations, bilious vomiting, cold extremities, and frequent inclination to make water, which is limpid, reddish, or pale, and passes with difficulty, he concludes, that, from those symptoms, we may be certain the kidneys are disordered.

IN the stone, he says, the urine is made with painful exertions, and, with difficulty comes away, either drop by drop, or slowly, sometimes involuntarily, is sandy, bloody, or purulent; the patient is obliged to take to different postures, in order to facilitate its expulsion, some drawing out the penis to alleviate their pain; a sense of weight is felt about the neck of the bladder. Celsus is the first author who has described the method of relieving, by surgical operation, this imminently dangerous and exquisitely painful complaint.

THE operation, which Celsus has proposed for the extraction of the stone, is that which is well known by the name of the apparatus minor, or cutting on the gripe; and, altho' he considered it as rash to attempt performing it on
any

any person, under the age of nine years, or above fourteen, yet it was generally adopted, without such limitation, and practised until the middle of the sixteenth century; when the apparatus major, introduced to the publick by Marianus Sanctus, although invented by De Romanis of Cremona, was justly preferred to it; so that the regular practitioners abandoned it, and cutting on the gripe was only practised by itinerant lithotomists.

THE simplicity of the apparatus minor seems to have strongly recommended it to Heister; and he says that, in many cases, it may be practised with great advantage; as in all those where the stone can be easily brought down, by the finger in ano, and made protuberant in perineo: This is not hard to effect in young children; and I have been sometimes, on the authority of Heister, tempted to cut in this manner; but never did but twice, and that where the stone had been fixed in the entrance of the urethra: Both patients recovered extremely well from the operation.

GROENEVELT *, in his *Dissertatio Lithologica*, says cutting on the gripe was commonly practised in England; and our eldest surgeon

* He wrote in 1684.

geon * here assures me that, in his time, one man, in particular, cut in this method with success, although he made no exception as to the patient's age.

BUT Lithotomists, who cut on the gripe, did not perform the operation as pointed out by Celsus; for, instead of the lunated incision he recommends, they cut directly on the stone; so that this method approached very near to the lateral operation †, as to the division of the parts.

HOWEVER, if we consider the difficulty of bringing down the stone into the neck of the bladder, the contusion those endeavours must occasion; the uncertainty of getting the stone in a favourable situation, in order to cut on it, the laceration that attends the extraction, and the impracticability of performing this operation, except in a few cases, I presume, it will appear that the apparatus minor may, at this day, be justly looked on, as one of the exploded operations of surgery.

To the apparatus minor succeeded the apparatus major, an operation that was in general

* Mr. Daunt.

† Vide Albucasis's description of the operation.

neral use, until Cheselden published his lateral method of cutting for the stone.

WHOEVER will look over the several treatises on this subject, by Colot, Tollet, and Mery, will find that, by the direction of their incision, which was made parallel to the raphe, and extended, from under the scrotum, for two or three inches downwards, will be convinced, that they only opened the urethra, and that in the most ineligible part; and that it was impossible, even with all their dexterity, to cut entirely the bulbous part of the urethra, without injuring the rectum. The consequence was, that, in the dilatation, and extraction of the stone, the membranous part of the urethra, prostate gland, and neck of the bladder, were miserably torn*; so that only two, out of five, generally survived the operation, and it is to be supposed that hardly any, if the stone happened to be large.

Boudou, of the Hôtel Dieu, and Marechal, both improved this operation, by inclining the staff towards the right groin; so as to give their incision a sort of lateral direction;

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* Vide Le Dran's Parallele des differentes Manieres de tirer la Pierre.

and, De La Faye * says that, by the coup maître, the neck of the bladder was cut laterally, and a little portion of the prostate. Although this should be true, it would not be of any great consequence for the more easy extraction of the stone, or save the parts from laceration: For, a great defect in this method is, that even their external incision neither had, or could have a proper degree of extension

IN 1722, Douglas revived the operation of the apparatus *altus*. This method had been first practised through necessity, in 1560, by Francus, and after him by others. Mr. Douglas produces four cases in which he performed it; three recovered, in one of which he opened the peritoneum, and one died. Cheselden, soon after, cut nine in this method; only one died: He published an account of his success in 1723, and, at that time, was an advocate for this operation: But he soon after dropped it; for, as it was necessary to distend the bladder, so as to make it rise above the pubis, in order to make an incision into it, this was not always practicable, and, in the endeavour, the bladder was sometimes

* Vide his notes on Dionis's Operations.

times burst; besides, the peritoneum was liable to be cut, and the cavity of the abdomen exposed to the influence of the air; there was danger of the protrusion of the intestines, and of a putrid suppuration to succeed, from the urine lying continually in the wound: These are the disadvantages that seemed of so great consequence to Mr. Cheselden, as to induce him to relinquish this operation; nor should it ever be performed, except on the principles that obliged Francus to undertake it, which was an absolute impossibility of extracting the stone by the lateral method, and a probability of succeeding by cutting above the pubis. This is a case, from many circumstances, that must very seldom occur in practice.

We are now led to consider the advantages of the lateral method, of cutting for the stone, which is the chief object of the present enquiry.

RAU*, professor of anatomy at Leyden,
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* Heister impeaches the conduct of Rau with unwarrantable malignity; for, he says he was discharged the public professorship for misconduct, or ill behaviour: This by no means coincides with the character Albinus has drawn of him in his funeral oration; for, he concludes his character by one of the greatest elogiums that can be conferred on any man; saying, he fulfilled all the duties of a good citizen.

was the first, after Frere Jacques, that gave celebrity to the lateral method of cutting for the stone: He is said to have cut, with the most remarkable success, one thousand five hundred and forty patients. Notwithstanding that he made a secret of the particular manner in which he cut, as his successor and pupil, Denys, has done; yet, he pretended that he made his incision directly into the bladder, without materially interesting the urethra, or prostate; and, Mr. Cheselden seems to have been convinced that the fact was so. But Sharp has extremely well remarked, that it is almost impracticable to cut into the bladder, in this way, without touching the prostate gland; and it is very likely that Rau himself was deceived in this point. However, Cheselden, in endeavouring to improve Rau's method, met with very bad success; for, he lost four, out of ten patients, whom he cut in this manner, by a putrid suppuration that succeeded; which was caused, as he himself relates, by the urine continually lodging on the cellular membrane, outside the rectum.

HOWEVER, this did not intimidate Mr. Foubert from adopting the idea of Rau's cutting directly into the bladder; and he is of opinion,

opinion, that the utmost point of perfection, lithotomy can receive, consists in not interesting the urethra, or neck of the bladder, in the operation. Therefore, after distending the bladder with water, he plunges a long trochar, just by the tuberosity of the ischium; when he has got into the bladder, he introduces his lithotome on the groove of the canula, and makes a sufficient opening into the bladder, above the urethra, and one side of the neck of the bladder, or between the insertion of the ureter and prostate gland.

THIS operation was attempted to be improved by Mr. Thomas *. However, I presume it will appear, that it must be attended with all the disadvantages of Mr. Cheselden's first method, and some additional defects; for, it has happened, that the operator has missed getting into the bladder with the trochar. Mr. Foubert himself was fully convinced of this, from the bad success he had in some cases; and although he endeavoured, by placing a flexible canula in the wound, to obviate the gangrenous suppurations, that arise in consequence of the insinuation of the

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urine

* Pallucci has also endeavoured, but to little purpose, to improve this method, which he looks on to be one of the finest inventions in lithotomy. Vide his Remarks on Lithotomy.

urine into the cellular membrane all round; yet, soon after it was invented, this operation came, with great justice, to be generally discredited; and I hope, for the good of mankind, that no such operations will be again revived.

LITHOTOMISTS, at present, seem generally agreed in opinion, that the more eligible method, of cutting for the stone, consists in giving a proper degree of extension to our external incision; and dividing the membranous part of the urethra, the prostate gland, laterally, and the neck of the bladder.

HOWEVER, it is very evident that Cheselden did not entirely divide the prostate, nor does it appear it was his intention; nor would it be easy to do, by cutting, from within, outwards, as Sharp, Bromfield, and Pouteau direct*; for their methods of operating do not materially differ. In the method, that was generally taught in France, in 1768 and 1769, and practised in the Hôtel Dieu, one third of the prostate gland was never divided; and

* Bertrandi, in his Observations, gives Mr. Cheselden's method the preference.

and frequently, the gland was not at all touched, the bulbous and membranous parts of the urethra, being the only parts incised: The consequence was, that stones, any way large, were extracted with great difficulty, and the patient's generally died.

IF we consider that the prostate gland, which we often find considerably enlarged in calculous patients, is of itself a solid whitish mass, as large as a chestnut, incapable of giving way, without being rent asunder; and the impossibility of extracting a stone, without it's being either divided with a knife, or torn from the urethra, and lacerated in the effort; we may well judge how painfully laborious the extraction of a large stone must be, where this gland is not divided, and the imminently dangerous consequence of being obliged, otherwise, rudely to lacerate it. I therefore presume that the method, in which those parts are fairly divided with the knife, will contribute considerably to lessen the danger, attendant on cutting for the stone.

As cutting for the stone, in the methods already described, has been always esteemed a difficult operation, and in which, the Surgeon's operative abilities are put to the severest

rest test, practitioners have invented, in order to supply the want of dexterity, a variety of instruments to divide the parts intended, with more certainty, and less danger, than when we use only the knife, and, at the same time, leave as little to chance as possible.

Mr. LE DRAN*, I believe, was the first that contrived other instruments, besides the knife, more effectually to divide the prostate gland, and neck of the bladder. He strongly insists on the great advantages, that arise from having those parts fairly divided, instead of being lacerated; and contends that the incision should be carried on, from the end of the first incision, to the orifice of the bladder, inclusively: By this, the extraction of the stone is much facilitated. Although Mr. Le Dran's method, and instruments, were not generally used, and at present, I believe, never practised; yet he has great merit in making the first advances towards improving the lateral operation.

BUT, Mr. Le Dran seems to have begun his external incision rather too high, and did not continue it sufficiently low; he unnecessarily

* Vide his Operations of Surgery.

farily divides the anterior part of the urethra, as far, he says, as the incision in the skin; and neither his director or knife are well calculated, afterwards, to give a proper degree of steadiness to the operator, or to execute the intention of the operation.

IN the year 1750 *, I believe, Frere Côme contrived his bistouri caché. The simplicity of the instrument was such, and the method of using it appeared so extremely easy, as to recommend it to many surgeons; as it was affirmed, that the least dextrous surgeon could, with ease and safety, perform the operation, as well as the most experienced: However, the success was various, and did not, in general, correspond to this character. Mr. Louis † has, in a memoir, shewn the defects of this operation, and the dangerous consequences attending it, the chief of which seem to be as follows:

FRERE Come's bistouri caché is very far from being an instrument, whose use requires little or no dexterity in the operator; for, a
great

* Mr. Pouteau, and Le Cat, both invented lithotomes, but they never were generally adopted into practice.

† Vide Memoires de L'Academie Royale de Chirurgie, Tom. III.

great deal of the success of the operation will depend on the proper management of the bistouri caché, after we have introduced it into the bladder; and, as Mr. Bromfield † has well observed, there is great nicety in making the drawing cut; for, if the blade of the instrument is not placed with some obliquity downwards, it will wound the erector penis, and that branch of the hypogastric artery, called pudica externa; if placed quite perpendicular, it will wound the vesiculæ feminales, and intestine; and, if you draw it in a straight line towards you, the bladder will be wounded beyond it's neck. From this it will appear, that the bistouri caché is not well adapted to the general dexterity of surgeons. I have operated on the dead subject with this instrument, very frequently, and I find Mr. Bromfield's account of it to be a very fair representation; for, if we set the instrument at any of the higher degrees, after withdrawing it, we will find the tragit of it marked on the fundus of the bladder: This must, and really does, sometimes subject the operation to fatal hemorrhages, particularly where the vessels about the neck of

† Vide his Observations in Surgery. Vol. II. p. 240.

of the bladder are varicous, which is not unfrequent in those cases.

BESIDES, all that certainty of dividing the parts intended, when we set the instrument to a certain degree, is found to be fallacious; as it will vary, and depend very much on the operative abilities of the surgeon; so that, although it may be an useful instrument in good hands, it is, by no means, calculated for the generality of operators*.

Mr. HAWKINS's cutting gorgeret appears, at first view, extremely simple, and well calculated to render the operation of lithotomy quite easy. However, there is a good deal of dexterity required in the management of it; for, after introducing the beak of the gorgeret into the groove of the staff, if the operator does not properly incline the staff towards himself, at the same time that he lowers the handle of the gorgeret, so that its beak may be pushed onward along the groove of the staff, the gorgeret may slip between the rectum and the bladder, and the intention of the operation be defeated†.

HOWEVER

* Mr. Caque, Surgeon at Rheims, has improved the bistouri caché, by shortening the cutting blade, and making it blunt at the point.

† An accident which has sometimes happened.

HOWEVER, I must confess, this does not appear to be the strongest objection against the using this instrument in preference to others; but that, in all the trials I have made with the gorgeret, on the dead subject, I never found the opening into the bladder sufficiently large, for the extraction of a stone of a middling size, without a considerable laceration of the parts. I have frequently taken the largest sized gorgeret, and could not find that, in the adult subject, I ever entirely divided the prostate gland, if it was any way large: And, in the operations that were performed here on the living subject, if the stone was large, the extraction was painfully tedious, and effected with great difficulty, and in some cases not at all.

IN this cursory review, of the different methods and instruments, proposed for performing the lateral operation, I presume it will appear, that many of them are rather too complex, and require so much dexterity in the operator, as to render the event of the operation additionally precarious: Besides, the entire division of the prostate gland is very uncertain in all, except we use Frere Come's instrument; and then, we run the
contrary

contrary risk of cutting into parts which should remain untouched.

To obviate, in some degree, all those disadvantages, and to secure, to the operator, a certainty of dividing the membranous part of the urethra, prostate gland, and neck of the bladder, without putting his dexterity to any severe trial, Mr. Daunt, a surgeon of the first eminence in this city, contrived, in 1750, a conductor and lithotome *, which have been found extremely well calculated for the purpose. The method of using them is as follows :

THE patient being properly secured on the table, and the staff introduced, and held by an assistant, the operator makes his external incision, as described by Sharp and Bromfield, or as if he was to use the cutting gorgeret. Having opened the membranous part of the urethra, the operator introduces the conductor, along the groove of the staff, into the bladder; he then withdraws the staff, and takes the conductor in his left hand. Having introduced his two fore-fingers into the handle, A, he places his thumb over the bow of the instrument, B, which gives him
an

* Vide plate II.

an entire firmness, as to the rest of the operation. He then lateralizes the conductor by the pronation of his wrist, and takes the lithotome, and engages it on the crest of the conductor, and finishes the operation, by running the lithotome along the crest. Having arrived at the extremity of the conductor, he withdraws the knife along the crest; and then introduces the forceps on the conductor, which withdrawn, he proceeds to the extraction of the stone.

MR. Daunt sent the conductor and lithotome to the late Mr. Morand, to present to the Royal Academy of Surgery, in Paris, for their approbation: The subsequent letters, for which I am obliged to Mr. Daunt, contain their opinion.

A Paris ce 14. Fevrier, 1754.

MONSIEUR,

J'AI reçu, avec bien du plaisir et beaucoup de reconnoissance, le détail et les instrumens, que vous m'avez envoyés, pour la perfection de la taille laterale. J'ai donné à l'Académie des Sciences, pour être mis dans son histoire, ce qui regarde celle de vos succès, parce qu'elle est en possession de publier
ceux

ceux de la taille laterale. J'ai montré vos instrumens à l'Academie de Chirurgie, et j'ai été nommé Commissaire, avec deux autres de nos Messieurs, pour en faire des experiences sur le cadavre. Je vous ferai part, avec grand plaisir, du jugement qui en sera porté. Je lui ai montré aussi votre bandage unissant pour le bec de lievre, et elle l'a fort approuvé. Je suis chargé de sa part de vous dire, qu'elle recevra très volontiers tout ce que vous lui communiquerez de vos travaux, Pour moi, Monsieur, je vous prie d'être bien persuadé la parfaite consideration avec laquelle je suis,

Votre tres humble et très

obeissant serviteur,

MORAND.

Paris, the 14th of February, 1754.

SIR,

I HAVE received, with great pleasure, and return you thanks for, the account and instruments, which you have sent me, for the improvement of the lateral method. I have given up to the Academy of Sciences what regards the account of your success, in order to be inserted in their transactions,

factions, as they are intitled to publish those of the lateral method. I have shewn your instruments to the Academy of Surgery, and I have been named one of the committee, with two others of our gentlemen, to make trials of them on the dead subject. I shall, with great pleasure, acquaint you of the judgment that will be passed on them. I have also shewn them your uniting bandage for the hair lip, and it has been much approved of. I am enjoined, on their behalf, to tell you, they will very readily receive all you will communicate to them of your observations. For me, Sir, I pray you to be thoroughly convinced of the perfect consideration, with which

I am

Your most humble, and

most obedient servant,

MORAND.

MONSIEUR,

MONSIEUR,

ON a fait plusieurs experiences avec les instrumens que vous avez communiqué à l'Academie pour l'operation de la taille. L'Academie en a etè satisfaite : On coupe très bien la prostate et le col de la vessie : Le bistouri de Mr. Le Dran, dont le tranchant se trouve a la convexité du demi croissant qu'il represente, produit le même effet : Comme la plupart des lithotomistes se proposent de couper ces parties, il y en a beaucoup qui ont imaginé differens moyens pour y parvenir, et ils ont etè presenté à l'Académie ; mais la forme particuliere que vous avez donné au conducteur mâle est plus sure et plus commode, par rapport à l'anse qui est sous le manche, et qui, à votre imitation, seroit très bien appropriée au gorgeret dont on se sert ordinairement dans cette operation : Le second instrument, qui est conducteur femelle et litotome en mesme tems, est conduit invariablement dans la vessie au moyen de la tige echancrée, qui est à son extremité, et coupe lateralement le col et la prostate : Il a paru aux Commisaires, qui ont fait l'epreuve de ce litotome, qu'il seroit plus convenable que la lame tranchante fût faite sur le modele de celui de Mr. Cheselden, c'est à dire, qu'elle fût un peu plus large et convexe vers la pointe, pour

couper plus exactement la prostate, et plus étroite vers la base, cette largeur étant inutile, puis que les parties ont été coupées dans l'incision des tegumens.

J'ay l'honneur d'être très parfaitement,

Monfieur,

Votre très humble et

Tres obeissant serviteur,

ANDOUILLE,

Mr. DAUNT.

Commiffaire de L'Academie
pour les correspondances.

TEL est le jugement, Monfieur, que l'Academie a porté sur vos instrumens pour la taille, que Mr. Blondel me presenta de votre part. Le petit bandage unissant a été montré à une séance et a été fort approuvé. Nous ferons charmés de recevoir vos remarques, et je me chargerois volontiers de les faire valoir, si elles en avoient besoin.

Je fuis avec une parfaite estime,

Monfieur,

Votre très humble et

Très obeissant serviteur,

MORAND.

Ce 27 Fevrier, 1755.

S I R,

THERE have been several trials made with the instruments you have transmitted to the Academy for the lateral operation: The Academy has been satisfied with them: They cut the prostate and the neck of the bladder very well: Mr. Le Dran's bistory, the cutting edge of which is on the convexity of the half crescent it represents, produces the same effect. As most lithotomists have it in view to cut those parts, many of them have devised different instruments to effect it, and they have been presented to the Academy; but the particular form you have given the male conductor, is more sure and commodious, on account of the bow on the handle, which, according to your manner, might well be adapted to the gorgere usually employed in this operation. The second instrument, which is both a female conductor and lithotome, is invariably introduced into the bladder, by means of the curve teeth at its extremity, and cuts laterally the neck of the bladder and prostate.

The committee, who have made the trials of this lithotome, have thought it more ex-

pedient that the cutting blade should be made on the model of Mr. Cheselden's; that is to say, that it should be a little broader, and convex, towards the point, for the purpose of cutting the prostate more exactly, and narrower towards its base, where this breadth is useless, as the parts have been cut in the incision of the teguments.

I have the honour to be most perfectly,

S I R,

Your most humble, and

Most obedient servant,

ANDOUILLÉ.

Commisary of the Academy
for correspondencies.

Mr. DAUNT.

SUCH, Sir, is the decision of the Academy on the instruments for cutting for the stone, which Mr. Blondel presented to me on your behalf. The little uniting bandage has been shewn at a meeting, and has been greatly approved of. We shall receive your remarks with the highest pleasure, and I should
readily

readily undertake to display their merit, were it necessary.

I am, with perfect esteem,

S I R,

Your most humble, and

Most obedient servant,

MORAND.

February 27, 1755.

THE superior facility of performing the lateral operation with those instruments, the steadiness they give the operator, and the certainty of his dividing laterally the prostate gland and neck of the bladder, are evident, I presume, from the result of the repeated trials made on the dead subject, by order of the Academy.

It is remarked by the gentlemen of the Academy, that, if the blade of the lithotome was somewhat larger, and convex, at the point, and narrower at the base, it would be better adapted more exactly to divide the prostate, &c. With this view, I gave the lithotome the form that is shewn in the plate, and altered the conductor, so as to be much

more handy, and to give the operator still a greater firmness in operating, and obviates the necessity of lateralizing the instrument, which is a matter of the greatest consequence. To the staff I have also given a greater curve than they commonly have *.

The only attentions, I presume to recommend in operating, are, 1st, that the operator should, except he possesses great firmness, seat himself in a chair of a convenient size, so as to rest his elbow on his knee. 2dly, I have ever preferred holding the staff, to entrusting it to an assistant; nor do I think it renders the operation, in the least, more complex. 3dly, The operator should give a sufficient degree of extension to his external incision, so as to carry it a little below the obtuse process of the ischium: This will contribute much to the easy extraction of the stone. 4thly, In opening the membranous part of the urethra, let the operator sink his knife a little, and, at the same time, incline the staff to him; after, he takes the conductor, and introduces it along the groove into the bladder: Of this he may, in general, assure himself by feeling the stone with the conductor. The engaging the lithotome on
the

* Vide Plate III.

the crest of the conductor, and the rest of the operation, is so simple and obvious, as to require no farther directions. I think that introducing the fore-finger on the conductor, previous to introducing the forceps, is very proper; as by it we may, at once, ascertain what opening we have made.

THE easy or difficult extraction of the stone generally decides the success of the operation. If it is large, in whatever manner we operate, the extraction will prove more or less painful, tedious and difficult, attended with contusion and laceration of parts. The cause of death, in those who have undergone the operation, where the kidneys, bladder, &c. were not in a morbid state, will be found either to be from the exquisite pain, attending the frequent introduction of the forceps, slipping of the stone, and laborious extraction, by which the patient is exhausted, and expires shortly after the operation: In this case the patient may be said to die of fatigue; for, his exit is too rapid, to admit of being imputed to inflammation or gangrene. Or, if this does not happen, we find all the symptoms, that after intervene, strongly denote the violence done to the parts: Rapid fever, pukings, tension of the belly,

belly, followed by gangrenous suppurations, &c. bring about the fatal period. Those symptoms do not arise from the simple division of the parts with the knife, but from the contusion and laceration they suffer, in the extraction of the stone.

I HAVE been often struck with the great propriety of Colot's practice, in those cases, which was, where the stone was too big, or the patient too weak, to admit, as he says, of performing the entire operation, without the most imminent danger, he did not fear to wait for the period of suppuration; then he proceeded to the extraction of the stone with the happiest success *.

THAT suppuration gives a great degree of dilatability to the parts, is often proved from stones being extracted with great ease, after the suppuration has been formed, that resisted, at first, the most violent efforts of the operator. When this is duly considered, I
 presume,

* J'estimai donc qu'après une simple incision, je pourrois attendre sans crainte la suppuration de la playe, j'ai reconnu qu'après cet ouvrage la nature reprend le dessus, et que quelque fatigue qu'on fasse souffrir à la vessie pour en tirer une ou plusieurs pierres, on doit attendre un heureux succès. Colot, Traité des Tailles, p. 182.

presume, it will be found very advisable, in all cases, where the stone is large, or, from any other circumstance, the extraction is likely to prove difficult, to wait the period of suppuration, and by no means to fatigue the patient with any attempts immediately to extract the stone: And where there are more stones than one in the bladder, I believe, it will be the safest method, to extract them at different times.

THE treatment of the patient, after the operation, has been so ably laid down by different authors, that to give a detail of it here would be superfluous.

I SHALL close these observations by a few remarks on the unfrequency of the stone in Ireland, and on the futility of lithontripticks.

ALTHOUGH Dublin is reckoned the third largest city in Europe, and it's inhabitants may be computed at about two hundred thousand, yet, calculous patients are rarely met with*. In the different provinces of Ireland, the stone is still less frequent. By
what

* It may seem extraordinary that, in so large a city, there has not been one operation for the stone, very near these two years. This tract was written in the latter end of 1779, since which time, four patients only have been cut in Dublin.

what I can find, from all the enquiries I have as yet been able to make, the operation of lithotomy is scarcely ever performed in the County Hospitals.

IN Dublin, it is hard to compute the number of those, that have been cut in the different hospitals, as they generally keep no register; but, from every account I am able to obtain, the numbers stand nearly as follows: Since the year 1770, in Stevens's, seven underwent the operation; in Mercer's, nine; in the Inn's Quay, one; Meath Hospital, one; United Hospitals, ten*; which makes, in all, twenty-eight, cut in the course of ten years; and some of those came from the country,

FROM Dr. Dobson's account of the number of patients, that have been cut for the stone, in the several county hospitals throughout England, it appears that, in the course of ten years, more have been cut in one county hospital in England, than in all the hospitals of Ireland put together: This is evident from fifty-five patients having been cut

* These ten patients I cut in the method practised in the Hôtel Dieu; they all recovered in a short time without any dangerous symptoms intervening, but it is to be remarked they were all young subjects, and the stones small.

cut in the Norwich Hospital, which was only opened in 1772.

It is very difficult even to form a plausible conjecture, why the people of Ireland should be so exempt from calculous diseases. I have read many ingenious, but few satisfactory reasons, why the stone should be more prevalent in one country than another, as in some provinces of France, different counties of England, the Highlands of Scotland, where, I am informed, the stone is a very common disorder.

If we consider that the greater number of calculous patients are to be found among the children, particularly those of the poor*; and that it frequently happens that they are affected with gravelly symptoms, so early as to leave little room to attribute them to the influence of regimen, it will not be easy to find the cause in the non-naturals.

WERE the crudeness, tenacity, and general

* Van Swieten's reason, why the children of the poor should be so frequently afflicted with the stone, is, that the parents leave them a long while together in cradles, and give them diacodion, to keep them easy: But this reason may be deemed local; for although that custom does not prevail in Ireland, still the greater number of calculous patients are children.

ral bad quality of food to occasion the stone †, no people in Europe should be more afflicted with the disorder than the poor of Ireland; for, throughout the whole kingdom, the poor live, the year round, mostly on potatoes; and sometimes, they have such a scarcity of milk, that they are obliged to eat them with only salt: And, even among the manufacturers in cities they live very badly, their food being generally of the coarser kind of salt meats, and they seldom indulge themselves with any liquor, but the worst of spirits, or whiskey, to which they are in general greatly addicted, and drink it frequently to excess.

Now the only people in these kingdoms, who live so poor, and, as I hear, so very like the Irish, are the Highlanders; and, by all accounts they are very subject to the stone; so that, I believe, it will be found very difficult, and attended with great uncertainty, to account, on any sure principles, for the frequency of the stone in one country more than in another.

It

† This has been esteemed, among the German and Dutch authors, as the more frequent cause of the stone; but Platner thinks it may sometimes arise from a natural defect in the organization of the kidneys and bladder. Vide his *Institut. Chirurg.* p. 834.

IT has been computed that the fixed air, contained in the human calculus, constitutes more than one half of it's bulk; and this fixed air has been looked on, as the vinculum of cohesion between it's terrestrial parts *.

ON those principles, physicians have been induced to administer, as solvents of the stone, such medicines as are known to be absorbents, as I may say, of this fixed air; or, on the contrary, such as abound with it, and communicate to the stone more than it's natural proportion of fixed air. In either way, it was expected the solution of the stone would equally happen, by the extrication of the fixed air.

IT is much to be regretted, that this ingenious theory, when applied to practice, has not, in any measure, answered the great expectations entertained of it; which serves to prove the uncertainty of all theory, that is not corroborated by facts, and how cautious we should be of forming precipitate conclusions.

SINCE

* However, this has been denied by Macquer, one of the most celebrated Chemists in Europe. Vide the last edition of his *Diction. de Chym. Art. Gas.*

SINCE the time Mrs. Stephen's medicine was purchased by parliament, and that Dr. Whyt published his Essay on the virtues of lime water; lime water and soap have been esteemed the most effectual lithontripticks, and, as such, have been given in every form; and, what is a rare occurrence, they have had a longer and a fairer trial given them, than, perhaps, any other medicine; and that from the patients being wound up, by the plausibility of the theory, into the absolute belief that they were certain solvents of the stone.

HOWEVER, those, who have persevered the longest, and most regularly, in the use of those medicines, have, notwithstanding, died with stones in their bladders; as was the case of Lord Walpole, and the Earl of Orford: The first took lime water and soap, in large quantities, for eight years, and then died of a lingering fever, with three stones in his bladder. The Earl of Orford took Dr. Jurin's lixivium, or the capital soap lees, and died of an hemorrhage from the bladder*.

IT

* His Lordship's expressions to Dr. Jurin, a few days before he died, are too remarkable to be passed over. Doctor, says he, till now I could never believe, that your medicine would dissolve, or
break,

It cannot well be conceived, that medicines, so highly alkalescent, can be continued for a length of time, without introducing a septic tendency into the whole system. Two years ago, I cut a gentleman's son, who, for fifteen months before, had been on a course of lime water and soap: He was pale and bloated, his gums were loose and spongy, his breath was very offensive, his humours seemed strongly to tend to a state of putrescency; and it was with difficulty he recovered, even with the liberal use of the bark, nor did the stone bear any impression of the solvent. We should, therefore, be extremely cautious how we persist, for a length of time, in the use of medicines, that eventually may be productive of the worst consequences, and that never yet were known, in any instance, to answer the intention with which they were given, that is, entirely to dissolve the stone.

THE

break, a stone in the bladder: You have gained that point upon me. I find it is a thing of great efficacy, and I heartily wish good success to it, both for your sake, and for the good of mankind. But don't you think, added he, pressing the Doctor's hand gently with his own, it has almost blown me up? Should not that make you very cautious in the use of it for the future? Vide Ranby's Narrative. However, his Lordship was mistaken, as to the lithontriptick qualities of the lixivium; for there were many stones found in his bladder, after his death. The late Mr. Garrick also fell a victim to his confidence, and long continuance, in the use of solvents.

THE next lithontriptick is fixed air, or mephtick gas, as Macquer calls it. This was recommended by some ingenious physicians*, as a powerful solvent of the stone. On it's being first introduced into practice, I made repeated experiments on human calculi, in order to ascertain the solvent qualities of fixed air. I have weighed six different calculi, and submitted them, for six weeks, to the immediate influence of fixed air, in a great variety of processes, too tedious to mention, and the result was, that fixed air, immediately applied to the stone out of the bladder, did not prove a solvent nor make any impression, worth mentioning, on the different calculi.

THE late Dr. Mc.Bride, although a warm assertor of the great utility of mephtick water, in many cases†, was convinced of it's inefficacy to dissolve the stone out of the bladder;

* Particularly Dr. Hulme.

† I have repeatedly tried the effects of fixed air on putrid sores, and never found it's antiseptick qualities in any degree equal to a decoction of camomile flowers, acidulated with spirit of sea salt, applied to the part. This is a medicine of great efficacy, given internally and applied externally in all soft, spongy, scrofulous enlargements, attended with caries of the bone: cases that frequently occur in young people.

bladder ; for, he was present at many of those experiments ; and it is very difficult to conceive, that a medicine, which does not exert a solvent quality, when immediately applied in it's full force to the stone, can possess, after passing through the circulation, such powerful lithontriptick qualities as are ascribed to it. However, if it does no good, it can do no harm, which is more than may be said of most other medicines.

NOTWITHSTANDING the variety of lithontripticks every day proposed †, a man, who has a stone once formed in his bladder, will have but a very poor chance for being relieved, except by the hand of the surgeon.

† The *uva ursi*, a species of the *arbutus*, which De Haen recommends as a lithontriptick, was never tried here, as far as I can learn ; but, even by his own account of it, it's virtues must be very doubtful.

E X P L A N A T I O N

O F T H E

P L A T E S.

P L A T E I.

FIG. 1. Shews the steatomatous excrescence, A, furrounding the vascular texture of the testicle, C, which is perfectly sound. B, is the ulcer mentioned. Through the part corresponding to the opening in the integument, the probe, A, is passed. The Epididymis, which is easily to be discerned in the tumour, is not expressed in the drawing. I mention this, lest the excrescence, which evidently arises from the albuginea, should be mistaken for an enlargement of the Epididymis.

FIG. 2. The flat trochar for tapping an hydrocele, and which will be found much preferable to either the common trochar or lancet.

P L A T E II.

Mr. DAUNT's instruments for the lateral operation, and stones that have been extracted in his method.

FIG. 1. The conductor.

FIG. 2. The lithotome.

FIG. 3. Is a stone which Mr. Morris, Surgeon of Mercer's Hospital, was so kind as to give me, with this short account of the person, from whom he extracted it:

Mr. ORFORD, aged fifty-six, calculous for many years, resolved, in 1773, to undergo the operation, which Mr. Morris performed with Mr. Daunt's instruments, and happily extracted this stone, which weighed fifteen ounces and an half. The operation was not attended with any alarming hemorrhage. The patient recovered in the course of two months, and, after some time, could retain his urine, as well as ever.

FIG. 4. Is a stone, which weighed six ounces.

FIG. 5. Is a very extraordinary mulberry stone.

FIG IV.

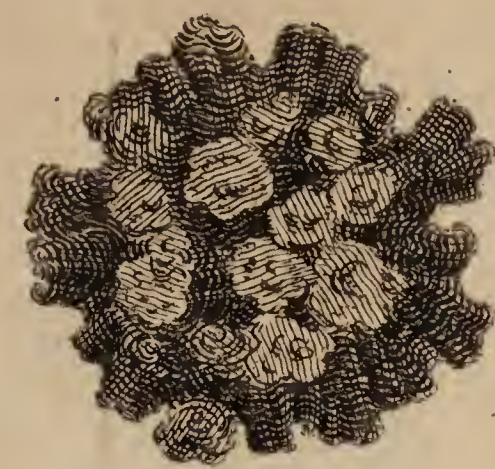
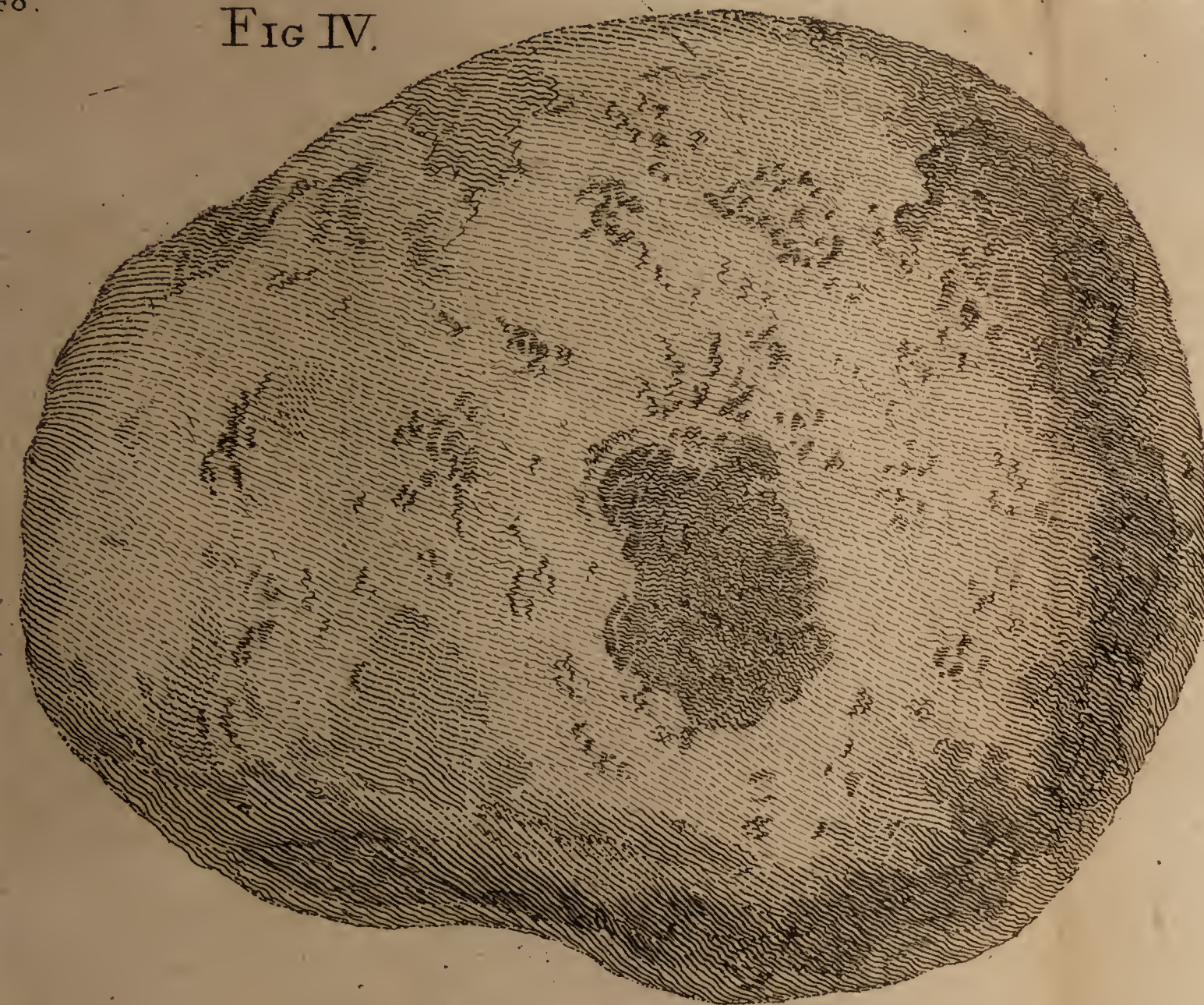


FIG V.

FIG III.



FIG I.

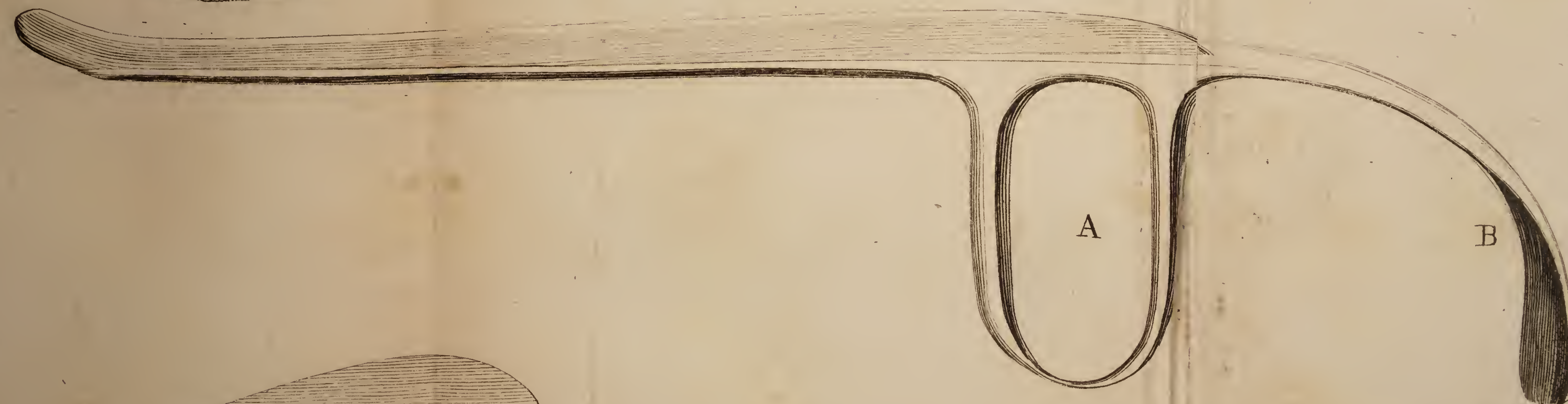
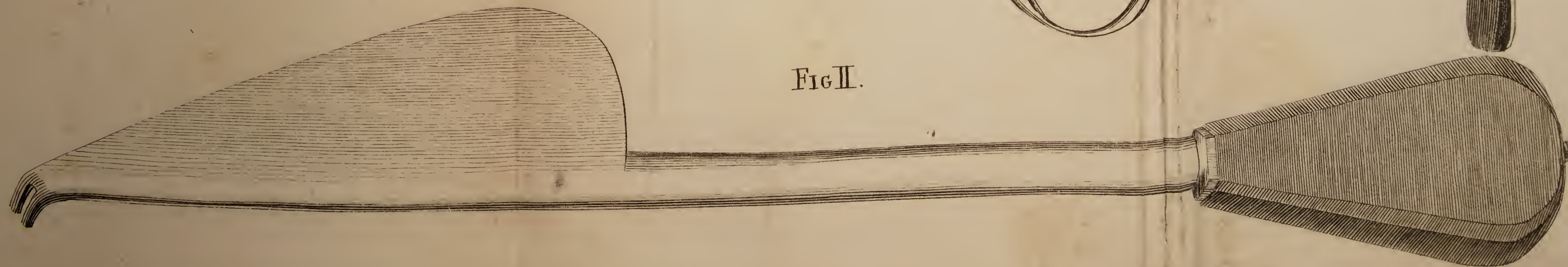
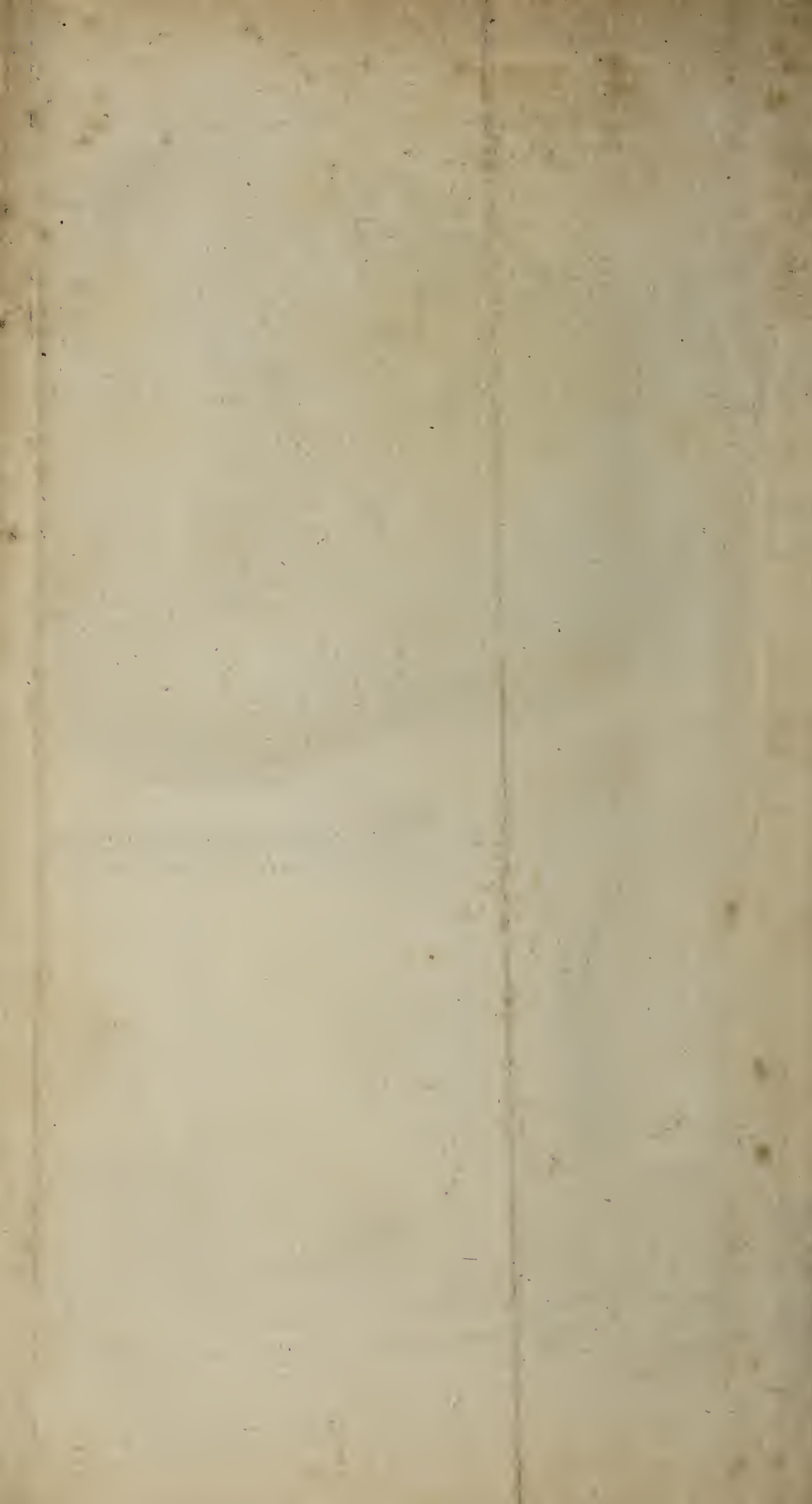


FIG II.





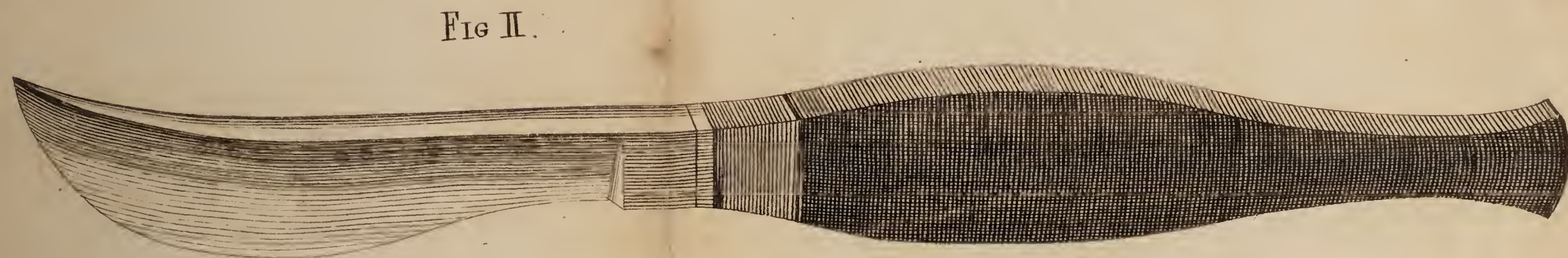
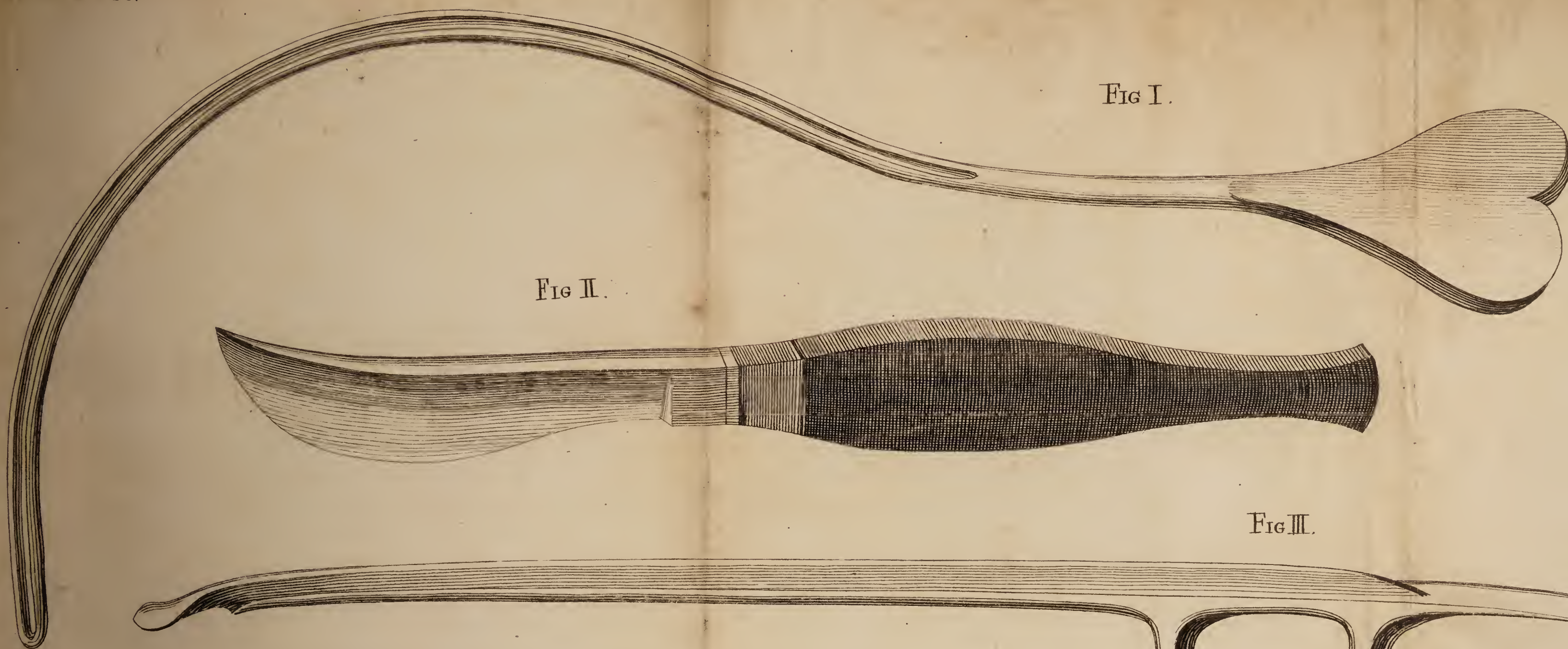


Fig. III.

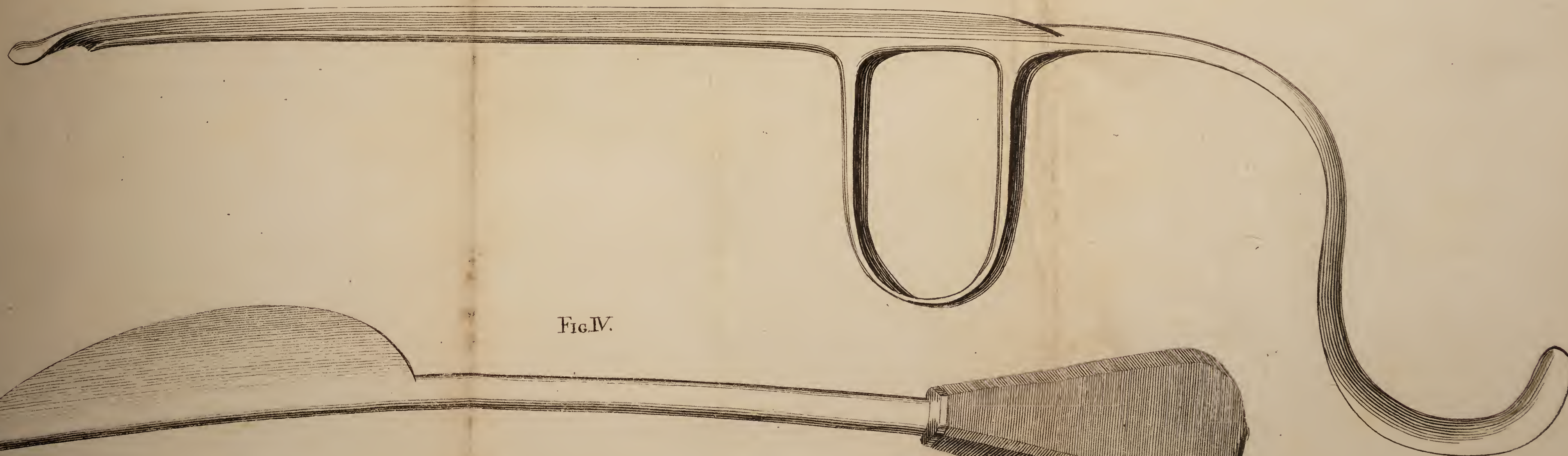
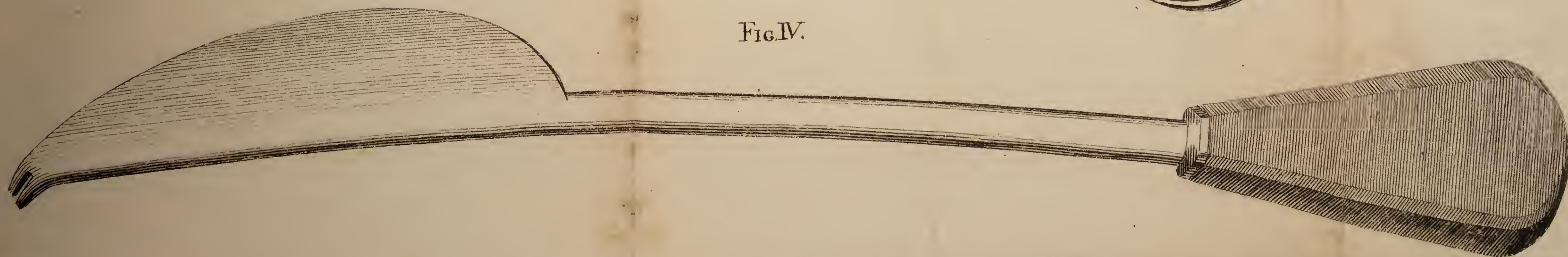
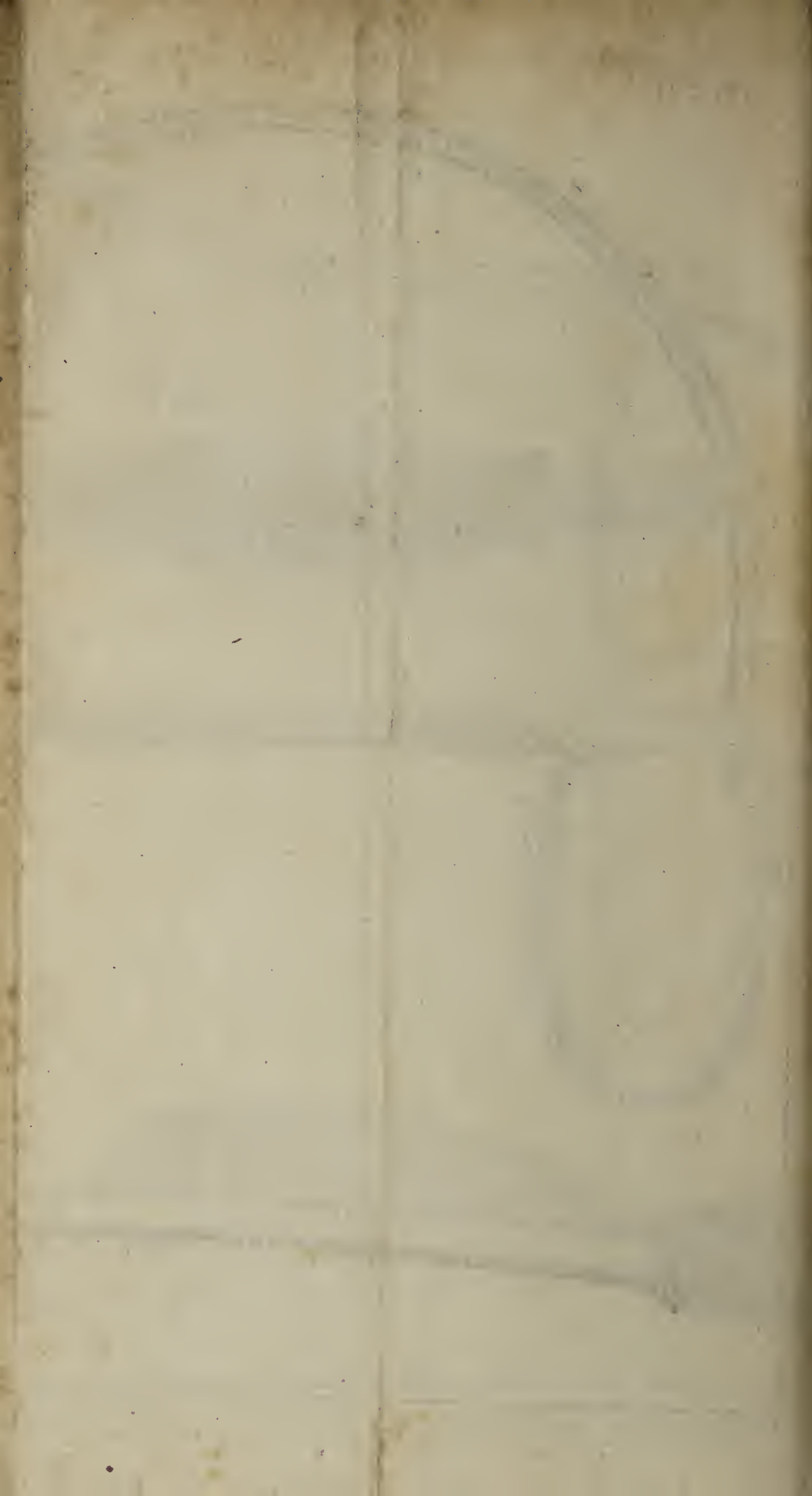


Fig. IV.





P L A T E III.

FIG. 1. The staff. To this instrument I have given a greater convexity, and shortened its neck, so as to adapt it the better to the operator's holding it himself.

FIG. 2. The knife, with which I make the external incision.

FIG. 3. The conductor. This instrument is longer than Mr. Daunt's: I have formed it curved; and made the crest run along the side: This precludes the necessity of the operator's lateralizing his hand, as the instrument, on its introduction into the bladder, will lie in the direction it should be held in. The form I have given the handle ensures a greater firmness to the operator.

FIG. 4. The lithotome. The difference between it and Mr. Daunt's may be easily perceived: I have given it a gentle curve, adapted to the conductor.

I HAVE frequently tried these instruments on the dead subject, and find that they render the operation extremely simple, and that the operator may be certain of invariably dividing the prostate gland and neck of the bladder.

E R R A T A.

Dedication, page vi. line 12. for *of surgeons*,
read *of the surgeons*. Page 89. line 21. for,
is extremely, read, *is so extremely*. Page 134.
line 2. for *obviates*, read *obviate*. Page 138.
line 5. for *num- of those*, read *number of those*.